

A1-F18AC-SRM-240

1 AUGUST 1999

Change 1 - 1 May 2001

TECHNICAL MANUAL

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE

STRUCTURE REPAIR

AFT FUSELAGE

NAVY MODEL F/A-18A AND F/A-18B 161353 AND UP

N00421-98-D-1339

This volume is one of two volumes and is incomplete without A1-F18AC-SRM-241. This volume contains WP001 00 through WP022 00.

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NATEC ELECTRONIC MANUAL

NUMERICAL INDEX OF EFFECTIVE WORK PACKAGES/PAGES

List of Current Changes

Original 0 1 Aug 99
INCL previously Inc IRAC 1

Change 1 1 May 01

Only those work packages/pages assigned to the manual are listed in this index. Insert Change 1 dated 1 May 2001. Dispose of superseded work packages/pages. Superseded classified work packages/pages shall be destroyed in accordance with applicable security regulations. If changed pages are issued to a work package, insert the changed pages in the applicable work package. The portion of text affected in a change or revision is indicated by change bars or the change symbol "R" in the outer margin of each column of text. Changes to illustrations are indicated by pointing hands, change bars, or MAJOR CHANGE symbols. Changes to diagrams may be indicated by shaded borders.

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LIST OF TECHNICAL PUBLICATIONS DEFICIENCY REPORTS INCORPORATED

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE

STRUCTURE REPAIR

AFT FUSELAGE

This TPDR supersedes TPDR dated, 1 August 1999.

1. The TPDRs listed below have been incorporated in this issue.

REPORT CONTROL NUMBER	LOCATION
08966-00-0007	007 00, pg 12, pg 14
39783-99-0066	Previously Incorporated

WARNINGS APPLICABLE TO HAZARDOUS MATERIALS

Warnings for hazardous materials listed in this manual are designed to warn personnel of hazards associated with such items when they come in contact with them by actual use. Additional information related to hazardous materials is provided in OPNAVINST 5100.23, Navy Occupational Safety and Health (NAVOSH) Program Manual, NAVSUPINST 5100.27, Navy Hazardous Material Control Program, and the DOD 6050.5, Hazardous Materials Information System (HMIS) series publications. For each hazardous material used within the Navy, a material safety data sheet (MSDS) is required to be provided and available for review by users. Consult your local safety and health staff concerning any questions on hazardous chemicals, MSDS'S, personal protective equipment requirements and appropriate handling and emergency procedures and disposal guidance.

Complete warnings for hazardous materials referenced in this manual are identified by use of an icon, nomenclature and specification or part number of the material, and a numeric identifier. The numeric identifiers have been assigned to the hazardous materials in the order of their appearance in the manual. Each hazardous material is assigned only one numeric identifier. Repeated use of a specific hazardous material references the numeric identifier assigned at its initial appearance.

In the text of the manual, the caption "warning" will not be used for hazardous materials. Such warnings will be identified by an icon and numeric identifier. The material nomenclature will also be provided. The user is directed to refer to the corresponding numeric identifier listed in this WP under the heading HAZARDOUS MATERIALS WARNINGS for the complete warning applicable to the hazardous material.

Biohazard



Fire



Breathing Hazard



Highly Toxic



Corrosive
(Caustic or Acidic)



Ingestion Hazard



Cryogenic



Oxidizer



Explosive



Radiation



Eye Protection



Skin Hazard



EXPLANATION OF HAZARDOUS SYMBOLS



The abstract symbol shows a material that may contain bacteria or viruses that present a health hazard.



The symbol of a human figure in a cloud shows that breathing this material can present a health hazard.



The symbol of drops of a liquid burning a hand shows a material that causes burns to human skin or tissue.



The symbol of a hand in a block of ice shows a material is so cold it will burn your skin on contact.



The rapidly expanding symbol shows that the material may explode if subjected to high temperature, sources of ignition, or high pressure.



The symbol of a person wearing goggles shows a material that can injure your eyes.



The symbol of a fire shows that a material can ignite and burn you.



The symbol of a skull and crossbones shows a material that is highly toxic and can be a danger to life and health.



The symbol of a liquid entering the mouth shows that eating or drinking this material can cause a health hazard.



The symbol of an “O” with a flame shows a material that will promote fire and cannot be stored near flammable or organic materials.



The symbol of three circular wedges shows that the material emits radioactive energy and can injure human tissue or organs.

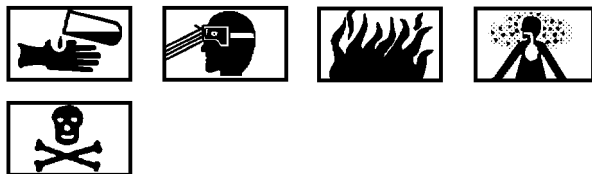


The hand symbol shows a material that can irritate the skin or enter the body through the skin and cause a health hazard.

HAZARDOUS MATERIALS WARNINGS

IndexMaterialWarning

1 Isopropyl Alcohol, TT-I-735



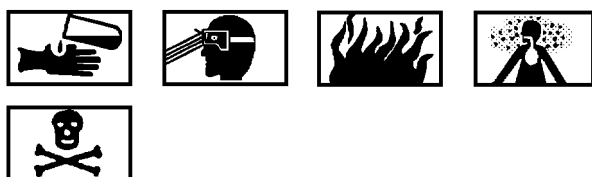
Isopropyl Alcohol, TT-I-735, is toxic and flammable. Do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using it and do not use it where others are smoking. Inhalation of vapors can cause drowsiness, dizziness, and headache. Contact of liquid with skin may cause dermatitis and irritation. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause drowsiness, go to fresh air. When handling large quantities (greater than one gallon), work at air-exhausted workbench or covered tank. Store solvent and dispose of liquid-soaked clothes in approved metal safety container. Metal containers of liquid must be grounded to maintain electrical continuity. Protection: chemical resistant goggles, gloves, and good ventilation (or respirator).

2 Sealing Compound, MIL-S-83430, Class A-1/2, B-2 or B-4



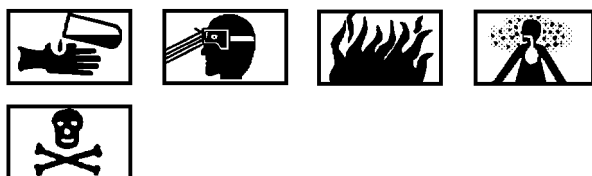
Sealing compound, MIL-S-83430, Class A-1/2, B-2 or B-4, is flammable and toxic to eyes, skin, and respiratory tract. Prolonged overexposure via inhalation may cause liver and/or kidney damage. Protection: Chemical splashproof goggles and solvent resistant gloves. Keep compound off skin and eyes. Keep away from open flames or other sources of ignition. Use only in well ventilated areas. Ensure good personal hygiene prior to eating, drinking, or smoking.

3 Methyl Isobutyl Ketone (MIBK), TT-M-213, D1153



Methyl Isobutyl Ketone (MIBK), TT-M-213, D1153, is toxic, flammable, and irritating to eyes and skin. Overexposure may cause dizziness, narcosis, nausea, and vomiting. Do not use in confined areas. Protection: chemical splashproof goggles, gloves, and good ventilation. Keep container closed. Keep sparks, flames, and heat away. Keep MIBK off skin, eyes, and clothes. Do not breathe vapors. Use of respiratory protection may be required, depending on work task(s) and location. Ensure good personal hygiene prior to eating, drinking, or smoking.

4 Adhesive Primer, RTV 1200



Adhesive Primer, RTV 1200, is flammable and toxic. Keep away from sparks and flame. Avoid contact with skin and eyes. Use in a well ventilated area. Avoid breathing vapors. Protection: rubber gloves and chemical resistant goggles.

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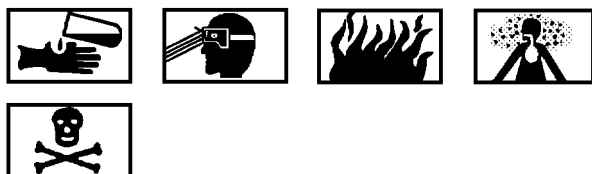
Warning

5 Adhesive, Silastic RTV 732



Silicone Sealant, Silastic RTV 732, is a skin, eye, and respiratory tract irritant. Avoid skin and eye contact and breathing vapors. Avoid repeated or prolonged contact. Wash hands thoroughly before eating, smoking, or using washroom. Avoid contact with extreme heat or oxidizing materials. Protection: chemical resistant goggles and rubber gloves. Good general ventilation is normally adequate.

6 Sealing Compound, Temperature Resistant, MIL-S-8802, Type 2, Class A-1/2



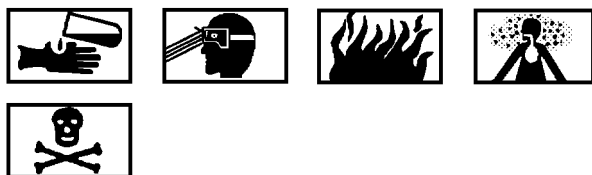
Sealing Compound, Temperature Resistant, MIL-S-8802, Type 2, Class A-1/2, is toxic and flammable. Keep away from heat, sparks, and open flame. Use with adequate ventilation to prevent vapor buildup. Prolonged breathing of vapors from organic solvents or materials containing organic solvents is dangerous. Avoid prolonged or repeated skin or eye contact. Wash hands thoroughly with soap and water before eating, drinking, or smoking. Contains chromates; follow approved toxic waste disposal procedures. Protection: rubber gloves, chemical resistant goggles, and protective skin compound.

7 Coolant, Isopar M



Coolant, Isopar M, is toxic and flammable. Avoid prolonged skin contact, Avoid contact with eyes. If splashed into eyes, flush with clear water for 15 minutes or until irritation subsides. Use in well ventilated area and avoid prolonged breathing of vapors. Protection: rubber gloves, chemical splashproof goggles; use half-mask respirator with organic cartridge required in poorly ventilated areas. Use chemical resistant apron. Keep containers closed when not in use. Do not handle or store near heat, sparks, flame or strong oxidants. This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel to remote ignition sources.

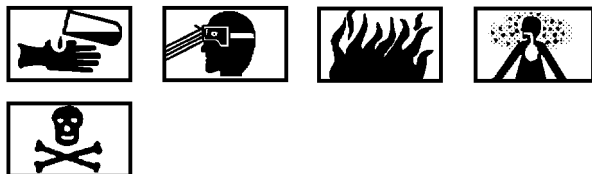
8 Sealing Compound, MIL-S-81733



Sealing Compound, MIL-S-81733, is flammable and toxic and may contain chromium compounds, suspected carcinogens. Avoid contact with skin and eyes. Keep away from heat, flames, and oxidizing materials. Prolonged breathing of vapors from organic solvents, or materials containing organic solvents, is dangerous. Protection: rubber gloves, chemical resistant goggles, and protective skin cream; use of a respirator with organic vapor cartridge is advised in poorly ventilated areas. Wash hands thoroughly with soap and water before eating, drinking, or smoking. Contains chromates; follow approved toxic waste disposal procedures.

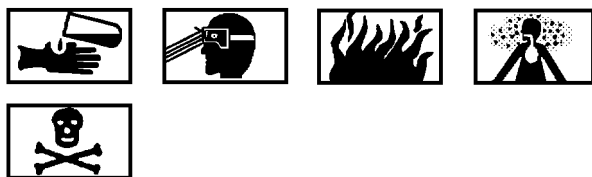
IndexMaterialWarning

9 Chemical Conversion Coating for Aluminum, MIL-C-81706



Chemical Conversion Coating for Aluminum (Alodine), MIL-C-81706, is toxic, flammable, and highly reactive. Do not mix with oxidizable materials such as cloth, paper, and wood. Avoid humidity, strong acids, alkalis, reducing compounds, and flammable or combustible materials. Store in a dry area in tightly closed containers. Store away from oils, greases, and corrosives. When mixing solutions, add acid to water, not water to acid. Contains chromic acid, a systemic poison, and may aggravate pre-existing conditions. Contact with powder can cause severe skin and eye irritation and skin ulcers. Inhalation or ingestion can result in nasal and kidney damage. If any liquid or powder contacts skin or eyes, immediately flush affected area thoroughly with water. Immediately change any contaminated clothing. If skin disorders appear, get medical attention. When handling powder at air-exhausted workbench or tank, wear approved gloves and apron. Do not eat, smoke, or carry smoking materials in areas where powder is handled. Contains chromates. Follow approved toxic waste disposal procedures. Protection: rubber gloves, chemical resistant goggles, faceshield, and laboratory apron; respirator with acid/organic vapor cartridge and mist prefilter is required during spray operations or in poorly ventilated areas.

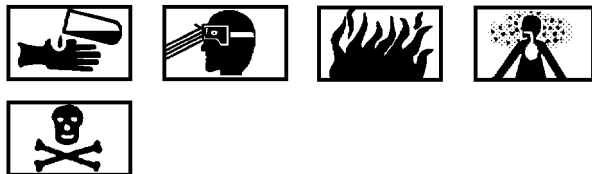
10 Primer Coating, MIL-P-23377, Type I



Primer Coating, MIL-P-23377, Type I or Type II, is toxic and flammable. Do not use near open flames, welding areas, or on hot surfaces. Do not eat, drink, or smoke where primers are being mixed, handled, or cleaned up. Prolonged breathing of vapors or spray mist is dangerous and may cause allergic reactions. Avoid prolonged skin contact. Contains chromates; follow approved toxic waste disposal procedures. Store tightly in a cool, dry, well ventilated area. Launder contaminated clothing before reuse. Protection: full facepiece continuous flow supplied air respirator, gloves, chemical resistant goggles, faceshield, protective skin compound, protective clothing required during spraying operations.

IndexMaterialWarning

■ 11 Dry Cleaning Solvent, P-D-680, Type II



Dry Cleaning Solvent, P-D-680, Type II, is toxic and combustible. Do not use near open flames, near welding areas, or on hot surfaces. Prolonged contact of skin with liquid can cause dermatitis. Repeated inhalation of vapor can irritate nose and throat and cause dizziness. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent saturated clothing. If vapors cause dizziness, go to fresh air. When handling liquid or when applying it in air-exhausted, partially covered tank, wear approved gloves. When handling liquid or when applying it at unexhausted, uncovered tank or workbench, wear approved respirator and goggles. Cleaning solvents shall not be applied by air spray and shall not be kept in open containers.

■ 12 Korotherm, MMS-455



Korotherm, MMS-455, is toxic and irritating to eyes, skin, and respiratory tract. Avoid breathing vapors. Avoid contact with eyes, skin, and clothing. Use only in well ventilated areas. Protection: neoprene gloves, chemical resistant goggles, and proper ventilation. Do not ingest. Use only in well ventilated areas.

■ 13 Cadmium Plating Solution



Cadmium Plating Solution is toxic. Avoid contact with eyes, skin, and clothing. Use in well ventilated area. Protection: neoprene gloves, chemical resistant goggles, and proper ventilation.

■ 14 Beryllium Oxide/Beryllium



Beryllium is highly toxic if inhaled as dust. It can cause a skin rash or inflammation when in direct contact with the skin, or a slow-healing ulcer if the skin is broken. Particles can cause lung cancer and allergic symptoms. Parts containing beryllium must not be drilled, cut, filed, sanded, or otherwise processed. Avoid contact; protect face and eyes; use respirator. Disposal of beryllium/beryllium oxide must be in accordance with local Environmental Protection Agency (EPA) directives.

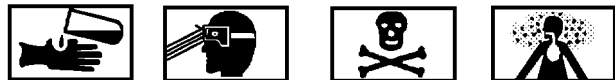
■ 15 Sealing Compound, MIL-S-38249, Type I



Sealing Compound, MIL-S-38249, Type I, is toxic. Prolonged breathing of vapors from organic solvents or materials containing organic solvents is dangerous. Use rubber gloves when handling. Wash hands thoroughly with soap and water before eating, drinking, or smoking.

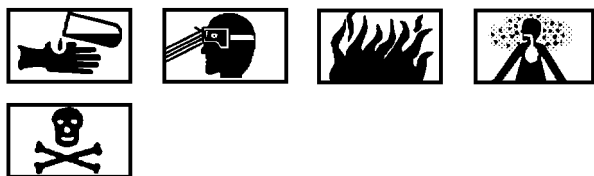
IndexMaterialWarning

■ 16 Thread Locking Compound, 22221



Thread Locking Compound, 22221, is toxic and irritating to eyes, skin, and respiratory tract. Avoid breathing vapors. Avoid contact with eyes, skin, and clothing. Use only in well ventilated areas. Protection: neoprene gloves, chemical resistant goggles, and proper ventilation. Do not ingest. Use only in well ventilated areas.

■ 17 Methyl Ethyl Ketone, TT-M-261



Methyl Ethyl Ketone (MEK), TT-M-261, is toxic and flammable, Do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using it, and do not use it where others are smoking. Keep container tightly closed. Avoid contact with skin or eyes. Contact with liquid or vapor can cause skin irritation, dermatitis, and drowsiness. If there is any prolonged skin contact, wash contacted area with soap and water. Remove solvent saturated clothing. If vapors cause drowsiness, go to fresh air. If irritation persists, get medical attention. When handling liquid at air-exhausted workbench, wear approved gloves, goggles, and long sleeves. When handling liquid or liquid-soaked cloth in open unexhausted area, wear approved respirator, gloves, and goggles. Dispose of liquid soaked rags in approved metal container. Metal containers of solution must be grounded to maintain electrical continuity.

■ 18 Sealing Primer, MIL-S-22473, Grade T



Sealing primer, MIL-S-22473, Grade T, is a skin and eye irritant. Avoid prolonged contact with the skin and eyes. Store below 120°F. Protection: rubber gloves, chemical resistant goggles, and protective skin compound.

■ 19 Sealing Compound, MIL-S-22473, Grade A



Sealing compound, MIL-S-22473, Grade A, is a skin and eye irritant and combustible. Do not use near open flames, near welding areas or on hot surfaces. Prolonged or repeated contact with liquid can cause dermatitis and irritation of skin. Repeated inhalation of vapor can cause liver and kidney damage. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause irritation, go to fresh air. When handling liquid at air-exhausted workbench, wear approved gloves and goggles or face shield. When handling liquid at unexhausted workbench, wear approved respirator and gloves, and wear goggles or face shield. Dispose of liquid-soaked rags in approved metal container.

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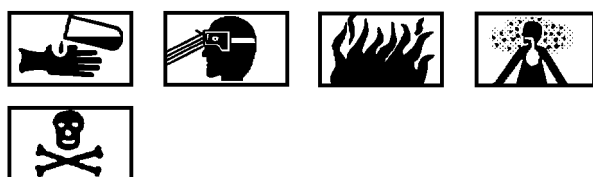
Warning

- 20 Powder, Molybdenum Disulfide, MIL-M-7866



Powder, Molybdenum Disulfide, MIL-M-7866, is a skin and eye irritant. Avoid contact with skin and eyes. Avoid contact with potassium nitrate and hydrogen peroxide; produces violent reaction when mixed with hydrogen peroxide. Keep away from heat, sparks, and flame. Store in a cool, dry, and well ventilated area. Protection: rubber gloves and chemical resistant goggles.

- 21 Epoxy Primer, MIL-P-85582



Waterborne Epoxy Primer, MIL-P-85582, is toxic and flammable. Avoid prolonged or repeated breathing of vapors. Wash hands after use. Wash contaminated clothing before re-use. Avoid heat, sparks and flames. Store only in ventilated areas. Protection: full face-piece continuous-flow supplied air respirator, neoprene gloves, chemical goggles, faceshield, protective skin compound, and protective clothing required during spraying operations.

- 22 Nitrogen, Liquid, BB-N-411, Type II, Class 1, Grade A/B



Liquid Nitrogen, BB-N-411, Type II, is extremely cold and can injure human skin or tissue; it also acts as a natural asphyxiant. Use in well ventilated spaces. Liquid nitrogen is extremely cold (-196°C); avoid contact with skin. Wear approved cryogenic protective clothing and gloves and chemical resistant goggles. In case of frostbite from liquid nitrogen, wash area with cool water and seek medical attention.

ALPHABETICAL INDEX

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE

AFT FUSELAGE

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Fastener Repair Attaching doors 166 and 167 to 74A330684 Former	019 01
Fuselage and Door 68 RE174331670-1 Bushing Replacement	019 04
Cover 74A330661	015 00
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Maintenance Fixture, RE174330601-1,-2	017 03
Radome Drill Jig RE274330601-1, -2 Replacement	017 01

Title	WP Number
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Core Ribbon Direction	020 00
Horizontal Stabilator, Part No. 74A210001-1009 or 74G210001-1003	035 00
Core Ribbon Direction	035 00
Horizontal Stabilator, Part No. 74A210004-1001,1007,-1009 or 74G210004-1001, -1003, -1005	035 01
Core Ribbon Direction	035 01
Horizontal Stabilator, Part No. 74A210004-1011, -1013, -1015, -1017	035 02
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EBC	010 00
EBD	011 00
EBE	011 00
EBF	011 00
EBG	011 00
EBJ	014 00
EBK	014 00
EBL	014 00
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62	015 00
63	020 00
64	017 00
65	017 00
66	015 00
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67	015 00
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Door 69 Repair	017 00
70	015 00
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Fastener Hole Repair for Missing Sleeve	021 00
72	015 00
Seal 74A330671-2005 Removal and Insulation	015 00
73	015 00
Seal 74A330671-2005 Removal and Insulation	015 00
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75	015 00
86	027 00
Fastener Hole Repair	027 00
87	027 00
Fastener Hole Repair	027 00
88	027 00

Title	WP Number
Fastener Hole Repair	027 00
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Fastener Hole Repair	027 00
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98	027 00
99	027 00
100	027 00
101	035 00
101	035 01
101	035 02
102	035 00
102	035 01
102	035 02
103	015 00
110	015 00
122	027 00
124	027 00
126	027 00
131 - 161353 THRU 161741	019 00
131 - 161742 AND UP	019 01
134 - 161353 THRU 161741	019 00
134 - 161742 AND UP	019 01
135	006 00
139	027 00
Fastener Hole Repair	027 00
164	006 00
165	006 00
166 - 161353 THRU 161741	018 00
166 - 161742 AND UP	019 01
167 - 161353 THRU 161741	018 00
167 - 161742 AND UP	019 01
175	015 00
Engine and Amad Mount Device, RE374000010-1 Removal and Installation	025 02
Engine Bay Heat Shield	014 00
Door EBJ	014 00
Door EBK	014 00
Door EBL	014 00
Web 74A330741 Fastener Replacement	014 00
Engine Mounts and Supporting Structure - 161353 THRU 162477	025 00
Bearing Block 74A331176 and Shim Repair	009 00
Engine Mounts and Supporting Structure - 162826 AND UP	025 01
Eye Bolt 123485-1 Removal and Installation, Intermediate Maintenance	025 01
Fairing Extension Assembly-Vertical Stabilizer	031 01
Fire and Thermal Barrier Coating	023 00
Firewall Sealant	023 00
Foam Block Replacement	023 01
Formers	008 00

Title	WP Number
Former 74A333360 (Y664.5) and 74A333365 (Y671.9) Repair ON 161924 AND UP	008 00
Forward Engine Access Door (Door 64)	017 00
Radome, Drill Jig RE274330601-1,-2, Replacement	017 01
Forward Engine Access Door (Door 64), Maintenance Fixture RE174330601-1, -2	017 03
Forward Fairing, 74A230611	027 00
Fastener Hole Repair	027 00
Fuel Dump Duct	031 00
Outer Wall Repair	031 00
Fuel Sealing, Vertical Stabilizer	033 01
Fuel Vent Lines Cover (Door 63)	020 00
Fuselage Attachment to Vertical Stabilizer	026 01
Horizontal Stabilator, Part No. 74A210001-1009 or 74G210001-1003 or -1017	035 00
Block 74R210001 Replacement	035 00
Core Ribbon Direction	035 00
Electrical Lead MS25083 Repair	035 00
Free Play	037 00
Inboard Rib 74A210733, Bearing Replacement	035 00
Outboard Rib 74A210734, KSAD32-18 Bearing Replacement	035 00
Wear Tolerances	037 00
Horizontal Stabilator, Part No. 74A210004-1001, -1007, -1009 or 74G210004-1001, -1003, -1005 or -1007,-1009,-1011	035 01
Block 74R210001 Replacement	035 01
Core Ribbon Direction	035 01
Electrical Lead MS25083 Repair	035 01
Free Play Inspection	037 00
Inboard Rib 74A210733, Bearing Replacement	035 01
Outboard Rib 74A210734, KSAD32-18 Bearing Replacement	035 01
Wear Tolerances	037 00
Horizontal Stabilator, Part No. 74A210004-1011,-1013,-1015,-1017 or 74G210004-1013, -1015, -1017	035 02
Block 74A210839 and 74R210001 Replacement	035 02
Core Ribbon Direction	035 02
Electrical Lead MS25083 Repair	035 02
Free Play Inspection	037 00
Inboard Rib 74A210733, Bearing Replacement	035 02
Outboard Rib 74A210734, KSAD32-18 Bearing Replacement	035 02
Wear Tolerances	037 00
Horizontal Stabilizer Boring Fixture RE274210004 and Bearing Sleeves Removal and Installation	035 03
Horizontal Stabilator Spindle Set 74D110416 for Bushing 74A331802 Removal and Replacement	007 01
Inboard Engine Mount - 161353 THRU 162477	025 00
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Cover 74A586540	010 00
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Door EBB	010 00
Door EBC	010 00
Door EBD	011 00
Door EBE	011 00
Door EBF	011 00
Door EBG	011 00
Skin and Structure Y557.500 to Y590.500	010 00
Skin and Structure Y590.500 to Y623.000	011 00
Skin and Structure Y623.000 to Y657.350	012 00
Skin and Structure Y657.350 to Y687.907	013 00
Spring 74A330847 Repair - 161353 THRU 161741	018 00
Spring 74A330847 Repair - 161742 AND UP	019 01
Web 74A332534 Replacement	010 00
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Maintenance Fixture, RE174330601-1,-2 Forward Engine Access Door (Door 64)	017 03
Maintenance Fixture, RE174330621-1,-2 Center Engine Access Door (Door 68)	019 02
Maintenance Fixture, RE174330616-1,-2 Aft Engine Access Door (Door 68 and 74)	019 10
Outboard Engine Mount - 161353 THRU 162477	025 00
Bearing Block 74A331176 and Shim Repair	009 00
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Speed Brake	024 00
Core Ribbon Direction	024 00
Hinge Half 74A360209 Bearing Repair	024 00
Maintenance Fixture RE174360001-1	024 03
Titanium Plate, 74A360222 Repair	024 00
Titanium Skin, 74A360213 Repair	024 00
Trunnion Alignment Device RE174332130-1 and Component Replacement	024 01

Title	WP Number
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Stabilator Actuator Access (Door 71)	021 00
Stabilator, Part No. 74A210001-1009 or 74G210001-1003	035 00
Stabilator, Part No. 74A210004-1001, -1007, -1009 or 74G210004-1001, -1003, -1005	035 01
Stabilator, Part No. 74A210004-1011, -1013, -1015, -1017	035 02
Stabilator Servocylinder Support, 74A331401, Bearing Repair	007 00
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Strap Assembly 74A330833 Repair	019 01
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Stub Frame, RE174331000-1,-2 Alignment Device Removal and Installation	008 01
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Bushings Repair For Holes Greater Than 0.4985 In 74A330754 Plates	026 01
To Fuselage Attaching Fastener Repair, Depot Maintenance	026 01
Torque Box	026 00
Trailing Edge	030 00
Core Ribbon Direction	030 00
Hole Locating Plate Set, RE174230200-1 For 74A230790 Trailing Edge Assembly	030 01

ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE

STRUCTURE REPAIR

STRUCTURE GROUP INDEX

Reference Material

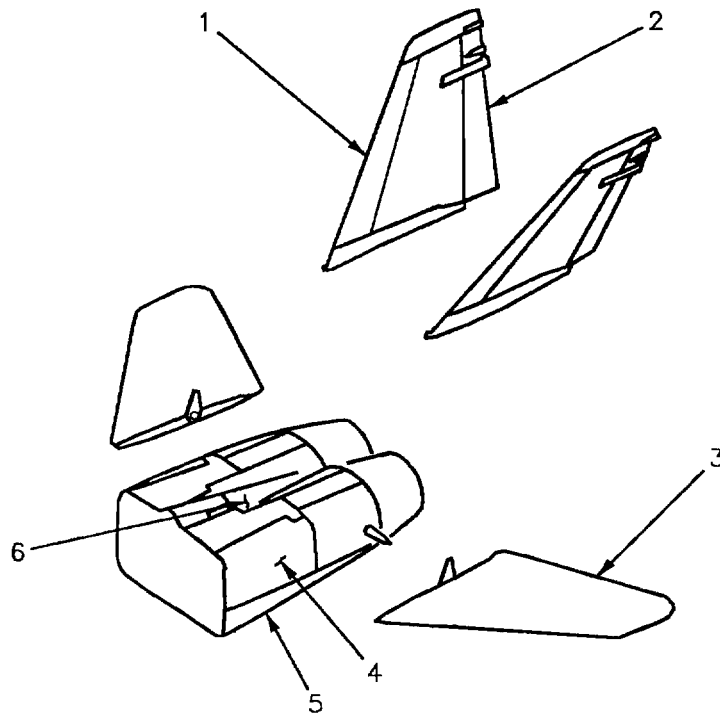
None

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1. DESCRIPTION.

2. Figure 1 shows main components of aft fuselage and where they are located in the manual.



ITEM	NOMENCLATURE	PART NUMBER	WP NO.
1	VERTICAL STABILIZER	74A230100	026 00
2	RUDDER	74A240200	034 00
3	HORIZONTAL STABILATOR PART NO. 74A210001,-1009 OR 74G210001-1003 HORIZONTAL STABILATOR PART NO. 74A210004-1001, -1007,-1009 OR 74G210004 -1001,-1003,-1005 HORIZONTAL STABILATOR PART NO. 74A210004-1011,-1013,-1015,-1017	74A210001 74A210004 74A210004	035 00 035 01 035 02
4	AFT FUSELAGE SKIN STRUCTURE DOORS	74A330000	003 00 007 00 015 00
5	ENGINE DOORS FWD ENGINE ACCESS DOOR (DOOR 64) AFT ENGINE ACCESS DOOR (DOOR 74) EFFECTIVITY: 161353 THRU 161741 CENTER ENGINE ACCESS DOOR (DOOR 68) EFFECTIVITY:161353 THRU 161741 COMBINED AFT AND CENTER ENGINE ACCESS DOOR (DOOR 68) EFFECTIVITY: 161742 AND UP	74A330601 74A330616 74A330621 74A330665 AND 74A330666	017 00 018 00 019 00 019 01
6	SPEED BRAKE	74A360001	024 00

Figure 1. Structure Group Index

INTRODUCTION**ORGANIZATIONAL, INTERMEDIATE, AND DEPOT MAINTENANCE****AFT FUSELAGE**

1. PURPOSE.

2. This manual provides damage evaluation, repair, and replacement information for structure items at organizational, intermediate, and depot levels of maintenance.

3. REQUISITION AND AUTOMATIC DISTRIBUTION OF NAVAIR TECHNICAL MANUALS.

4. Procedures to be used by Naval activities and other Department of Defense activities requiring NAVAIR technical manuals are defined in NAVAIR 00-25-100 and NAVAIRINST 5605.5.4A. To automatically receive future changes and revisions to NAVAIR technical manuals, an activity must be established on the Automatic Distribution Requirements List (ADRL) maintained by the Naval Air Technical Data and Engineering Service Command (NATEC). To become established on the ADRL, notify your activity central technical publications librarian. If your activity does not have a library, you may establish your automatic distribution by contacting the Commanding Officer, NATEC, Attn: Distribution, NAS North Island, Bldg. 90, P. O. Box 357031, San Diego, CA 92135-7031. Annual reconfirmation of these requirements are necessary to remain on automatic distribution. Please use your NATEC assigned account number whenever referring to automatic distribution requirements.

If additional or replacement copies of this manual are required with no attendant changes in the ADRL, they may be ordered by submitting a MILSTRIP requisition in accordance with NAVSUP 485 to Routing Identifier Code "NFZ". MILSTRIP requisitions can be submitted through your supply office, Navy message, or SALTS to DAAS (Defense Automated Address System), or through the DAAS or NAVSUP web sites. For assistance with a MILSTRIP requisition, contact the Naval

Inventory Control Point (NAVICP) Publications and Forms Customer Service at DSN 442-2626 or (215) 697-2626, Monday through Friday, 0700 to 1600 Eastern Time.

5. MANUAL ISSUE DATE.

6. The date on the title page is the copy freeze date. No additions, deletions, or changes are made after the manual issue date, except last minute safety of flight or required maintenance changes. Data collected after the manual issue date is included in later changes or revisions of the manual.

7. EFFECTIVITIES.

8. Effectivity notes on manual title pages, work package title pages, and within a work package indicate the aircraft to which the data applies. If no effectivity note appears on the work package title page, the work package has the same effectivity as shown on the manual title page. The effectivity notes may use:

NOTE

Aircraft with model designator F/A-18B are the same type and model as TF/A-18A.

- a. Type, model, and series
- b. Bureau number (tail number)
- c. Combination of type, model, series, and bureau numbers
- d. Part number or serial number
- e. Technical directive number

The table below shows examples of effectivity notes and their meanings:

Effectivity Note Examples

Effectivity Note	Definition
161362 AND UP	Applicable to all F/A-18A, F/A-18B, F/A-18C and F/A-18D for bureau numbers listed.
F/A-18A, F/A-18B	Applicable to all F/A-18A and F/A-18B.
F/A-18C, F/A-18D	Applicable to all F/A-18C and F/A-18D.
F/A-18A	Applicable to all F/A-18A, but not F/A-18B, F/A-18C and F/A-18D.
F/A-18B	Applicable to all F/A-18B, but not F/A-18A, F/A-18C and F/A-18D.
F/A-18C	Applicable to all F/A-18C, but not F/A-18A, F/A-18B, and F/A-18D.
F/A-18D	Applicable to all F/A-18D, but not F/A-18A, F/A-18B, and F/A-18C.
F/A-18A, F/A-18C	Applicable to all F/A-18A and F/A-18C, but not to F/A-18B and F/A-18D.
F/A-18B, F/A-18D	Applicable to all F/A-18B and F/A-18D, but not to F/A-18A and F/A-18C.
F/A-18A 161353, 161359 THRU 161364	Only applicable to some bureau numbers of F/A-18A. Not applicable to any F/A-18B, even if a F/A-18B bureau number is within the numbers listed.
F/A-18C 163427, 163449 THRU 163456	Only applicable to some bureau numbers of F/A-18C. Not applicable to any F/A-18D, even if a F/A-18D bureau number is within the numbers listed.
F/A-18B 161354 AND UP	Only applicable to some bureau numbers of F/A-18B. Not applicable to any F/A-18A, even if an F/A-18A bureau number is within the numbers listed.
F/A-18D 163434 AND UP	Only applicable to some bureau numbers of F/A-18D. Not applicable to any F/A-18C, even if a F/A-18C bureau number is within the numbers listed.
161353 THRU 161356 BEFORE F/A-18 AFC 772	Applicable to F/A-18A and F/A-18B for bureau numbers listed before modification by technical directive.
161357 AND UP; ALSO 161353 THRU 161356 AFTER F/A-18 AFC 772	Applicable to aircraft modified during production; also applicable when affected aircraft have been modified by technical directive.
P/N 74A210001-1001, 74A210001-1003, AND 74A210001-1005	Applicable to assemblies which are interchangeable between aircraft.
Outer Wing, Assembly Serial Number, A13-0022	Applicable to assemblies which are interchangeable between aircraft, but configurations can not be identified by part number.

9. TECHNICAL DIRECTIVES.

10. Technical directives are documents which direct the accomplishment, and recording of a retrofit configuration or inspection to delivered aircraft, or aircraft components.

11. AIRFRAME (AFC) OR SOFTWARE CONFIGURATION (ASC) CHANGES.

12. AFC and ASC effectivities are written the same, except only the AFTER configuration of an ASC is shown in a manual. See AFC effectivity example in Effectivity Note Example table.

13. **AIRCRAFT COMPONENT CHANGES.** Technical directives which change configuration of aircraft components, i.e. AAC, ACC, AYC, and PPC will list part numbers in the effectivities.

14. HISTORICAL RECORD/RECORD OF APPLICABLE TECHNICAL DIRECTIVES.

15. The technical directives affecting this manual are listed in the Record of Applicable Technical Directives of each affected work package. Because an ASC directs all aircraft be modified within 30 days, ASC's are not listed. When a technical directive is rescinded, the before configuration is removed from the manual, and the technical directive entry is removed from the Record of Applicable Technical Directives and entered in the Historical Record of Applicable Technical Directives.

16. HOW TO USE THE MANUAL.

17. Text and illustrations contained in this manual are in work package format. These work packages are complete sets of data or procedures arranged in a logical sequence supplying instructions, references, and material/equipment requirements for maintaining the structural integrity of the aft fuselage. Work package types contained in this manual are listed below.

a. Alphabetical Index Work Package. This work package contains an alphabetical listing, by title, of each work package contained within the manual. This work package is numbered 001 00.

b. Aft Fuselage Structure Group Index Work Package. This work package contains an illustration which indexes the location of each structure group. It contains a table listing item, nomenclature, part number,

work package number for location within the manual. This work package is numbered 001 01.

c. Introduction Work Package. This work package contains introductory information for the repair person's use. This work package is numbered 002 00.

d. Numerical Index of Effective Work Packages/Pages (A Page) provides the user with the current status of the publication.

e. Specific Procedure Work Package. Specific procedure work packages are those which provide damage evaluation, repairs, and replacements for structure items. Items are indexed and identified on an illustration by nomenclature, part number, description, and material.

f. Warnings, Cautions, and Notes. Within the manual, items of special importance and critical instructions are emphasized by use of a warning, caution, or note. Warnings and cautions appear immediately before the step to which they apply. Notes may appear before or after the affected step. Uses of and difference between warnings, cautions, and notes are listed below:

WARNING

Warnings describe conditions or procedures that could result in injury or death if correct procedures are not followed.

CAUTION

Cautions describe conditions or procedures that could result in damage to or destruction of equipment if correct procedures are not followed.

NOTE

Notes describe or clarify conditions or procedures.

17. TECHNICAL PUBLICATION DEFICIENCY REPORT (TPDR).

18. The TPDR (OPNAV FORM 4790/66) is the form for reporting errors and suspected omissions in the technical manuals. Reporting procedures are in OPNAVINST 4790.2 SERIES.

19. QUALITY ASSURANCE PROCEDURES.

20. Procedures or parts of procedures which require quality assurance inspection are identified by the letters (QA) after the applicable steps. When (QA) is assigned to a step or a heading which is immediately followed by substeps, the inspection requirement is applicable to all substeps.

21. When doing maintenance in any area, a visual inspection of the area will be made for cracks, corrosion, and security of component installation before securing the area for flight.

Historical Record of Applicable Technical Directives

None

ORGANIZATIONAL MAINTENANCE
STRUCTURE REPAIR
AFT FUSELAGE SKINS DAMAGE EVALUATION

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Aft Fuselage Finish System and Markings	WP036 00
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation - Engine	WP003 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Patch Fabrication	WP006 01
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Titanium Sheet, Free of Structure and Land Areas	WP032 00
Aluminum Sheet Edge Repairs	WP034 00
Titanium Sheet Edge Repairs	WP035 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Skin 74A330700-2007, -2008, -2019, -2020 Fastener Replacement	6
Skin 74A330740-2001, -2002, -2009, -2010 Fastener Replacement	6

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 IAFC 119	12 Jul 89	L/R Forward Engine Mount Support Structure, Replacement of (ECP MDA-F/A 18-00304)	1 Feb 90	-

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.

8. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet or titanium sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A1, A2, A3, and A4, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Stop drill ends of crack in repair zones A1 and A2 or rout out crack in repair zone A3. Completely cut out crack in smallest diameter circle possible in zone A4.

(2) In repair zones A1, A2, and A3, install lap patch.

(3) In repair zone A4, install type two flush or lap patch.

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones B3 and B4, repair cracks free of structure or land areas in aluminum sheet, 0.050 inch thick or less, as listed:

(1) Completely cut out crack in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1, A2, A3, and A4, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1, A2, A3, and A4, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zones A1, A2, A3, and A4, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A1, A2, and A3, install type one flush or lap patch. In repair zone A4, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones B3 and B4, repair holes free of structure or land areas in aluminum sheet, 0.050 inch thick or less, as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1, A2, A3, and A4, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1, A2, A3, and A4, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zones A1, A2, A3, and A4, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) or in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. Dents.

a. In repair zones A1, A2, A3, and A4, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A1, A2, and A3, install type one flush or lap patch. In repair zone A4, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones B3 and B4, repair dents free of structure or land areas in aluminum sheet, 0.050 inch thick or less as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1, A2, A3, and A4, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1, A2, A3, and A4, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. **Fairing 74A330835 Repair.** This procedure replaces existing pin and collar fasteners with gang channels, plate nut, and removable fasteners when replacing damaged fairing. See figure 3.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Brush, Varnish	H-B-695, Type 1, Grade A, Size 1/2
Cheesecloth	CCC-C-440, Type 1, Class 1
Collar (2)	SW1000-5M
Gang Channel (as required)	MS21065-3-7-2
Gang Channel (as required)	MS21065-3-7-3
Isopropyl Alcohol	TT-I-735
Pin (as required)	HL611-5-5
Pin (as required)	HLT311TB-5-5
Plate Nut (as required)	MS21062-3
Rivet, Solid (as required)	MS20426AD3-()
Screw	HT4024L3-()
Screw	HT4027-3-()
Screw (3)	HT4068-3-()A
Sealing Compound	MIL-S-83430, Class B 1/2
Strap (Fabricate)	7075-T6 Alclad, 0.063 Inch Thick
Strap (Fabricate)	7075-T6 Alclad, 0.125 Inch Thick

a. Remove engine (A1-F18AC-270-300, WP003 00).

b. Remove fasteners attaching damaged fairing to structure, detail A.

c. Remove damaged fairing.

d. Remove next two fasteners from adjacent fairing segment, detail A.

e. Remove 74A333875 strap and discard, detail A.

f. Fabricate elongated strap from material and dimensions shown, detail C.

g. Align hole in strap with uppermost hole in existing fairing segment and temporarily secure in place, detail B.

NOTE

Strap should cover all exposed holes.

h. Mate drill four remaining holes into strap to dimensions shown in detail E.

i. Countersink lower three holes in mold line skin for HT4068-3-()A screws, detail B.

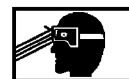
j. Remove strap and deburr all holes.

k. Align applicable gang channel or gang channel and plate nut to holes in strap and temporarily secure in place, detail E.

l. Mate drill 0.098 +0.005 -0.000 inch diameter holes in strap from holes in attaching hardware, detail E.

m. Countersink back side of strap for MS20426AD3 rivets.

n. Remove attaching hardware from strap and deburr all holes.



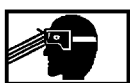
Isopropyl Alcohol

1

o. Wipe clean repair area and repair parts with clean cheesecloth moistened with isopropyl alcohol.



Sealing Compound



2

p. Fay surface seal with MIL-S-83430 sealing compound, attaching hardware to strap with MS20426AD3 rivets, length determined on installation. Rivet set wet with MIL-S-83430, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

q. Temporarily secure replacement fairing to structure maintaining a gap of 0.08 inch between replacement fairing and adjacent fairing segment.

r. Mate drill 0.1895 +0.0025 -0.0000 inch diameter holes in replacement fairing.

s. Remove fairing and deburr all holes.

t. With brush, fay surface seal strap assembly with MIL-S-83430 sealing compound.

u. Install two uppermost pins and collars set wet with MIL-S-83430 sealing compound, detail B.

v. Fay surface seal both contact surfaces of replacement fairing.

NOTE

No sealing compound allowed on threaded portion of screw.

w. Install replacement fairing with three HT4068-3-()A screws set wet with MIL-S-83430 sealing compound. Alternate screws may be used, length determined on installation, detail B.

x. Remove excess sealing compound with clean cheesecloth moistened with isopropyl alcohol.

y. Wipe clean with clean dry cheesecloth.

z. Refinish repair area (A1-F18AC-SRM-500, WP036 00).

aa. Install engine (A1-F18AC-270-300, WP003 00).

14. REPLACEMENT.

15. Skin replacement is depot maintenance. Fastener replacement is organizational maintenance.

16. **SKIN 74A330700-2007, -2008, 2019, -2020 FASTENER REPLACEMENT.** See Figure 4.

17. **SKIN 74A330740-2001, -2002, -2009, -2010, FASTENER REPLACEMENT.** See Figure 5.

Table 1. Negligible Damage Limits







Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Skin Zone B3 Zone A3	0.053 0.090	0.0006 0.002	0.0006 0.002	100% 100%	0.025 	
Fig 1 (2)	Skin Zone B3 Zone A3	0.060 0.090	0.0006 0.002	0.0006 0.002	100% 100%	0.025 	
Fig 1 (3)	Skin Zone A3 Zone A3	0.060 0.090	0.002 0.002	0.002 0.002	100% 100%	0.025 	

Table 1. Negligible Damage Limits (Continued)





















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (4)	Skin Zone B3 Zone A3	0.053 0.090	0.0006 0.002	0.0006 0.002	100% 100%	0.022 	 10%
Fig 1 (5)	Skin Zone B3 Zone A3	0.045 0.090	0.0006 0.002	0.0006 0.002	100% 100%	0.022 	 10%
Fig 1 (6)	Skin Zone B3 Zone A3	0.066 0.090	0.0006 0.002	0.0006 0.002	100% 100%	0.030 	 10%
Fig 1 (8)	Panel Zone A1	0.025	0.001	0.001	100%	0.015	20%
Fig 1 (12)	Skin Zone B3 Zone A3	0.045 0.090	0.0006 0.002	0.0006 0.002	100% 100%	0.016 	 10%
Fig 1 (13)	Closure Zone B3	0.090	0.0006	0.0006	100%	0.045	5%
Fig 1 (14)	Skin Zone B3 Zone B3 Zone B3 Zone A3	0.040 0.050 0.066 0.090	0.0006 0.0006 0.0006 0.002	0.0006 0.0006 0.0006 0.002	100% 100% 100% 100%	0.022 0.016 0.027 	   10%
Fig 1 (19)	Retainer Zone A1	0.032	0.012	0.012	100%		
Fig 1 (20)	Fairing Zone A1 Zone A1 Zone A1 Zone A1	0.016 0.032 0.055 0.080	0.002 0.002 0.002 0.002	0.002 0.002 0.002 0.002	100% 100% 100% 100%	0.008 0.016 0.027 0.040	  10% 10%
Fig 1 (21)	Skin Zone B3 Zone B3 Zone B3 Zone A3	0.049 0.063 0.090 0.090	0.0006 0.0006 0.0006 0.002	0.0006 0.0006 0.0006 0.002	100% 100% 100% 100%	0.025 0.025  	  5% 5%

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Skin Zone B3 Zone A3	0.053 0.090	0.010 0.010	0.010 0.010	40% 60%	0.010 0.010	40% 60%
Fig 1 (2)	Skin Zone B3 Zone A3	0.060 0.090	0.010 0.010	0.010 0.010	30% 60%	0.010 0.010	30% 60%
Fig 1 (3)	Skin Zone B3 Zone A3	0.060 0.090	0.010 0.018	0.010 0.018	40% 40%	0.010 0.018	40% 40%
Fig 1 (4)	Skin Zone B3 Zone A3	0.053 0.090	0.009 0.018	0.009 0.018	30% 40%	0.009 0.018	30% 40%
Fig 1 (5)	Skin Zone B3 Zone A3	0.045 0.090	0.009 0.007	0.009 0.007	40% 40%	0.009 0.007	40% 40%
Fig 1 (6)	Skin Zone B3 Zone A3	0.066 0.090	0.012 0.012	0.012 0.012	25% 25%	0.012 0.012	25% 25%
Fig 1 (8)	Panel Zone A1	0.025	0.005	0.005	100%	0.005	100%
Fig 1 (12)	Skin Zone B3 Zone A3	0.045 0.090	0.007 0.018	0.007 0.018	50% 60%	0.007 0.018	50% 60%
Fig 1 (13)	Closure Zone B3	0.090	0.018	0.018	100%	0.018	100%
Fig 1 (14)	Skin Zone B3 Zone B3 Zone B3 Zone A3	0.045 0.050 0.066 0.090	0.009 0.007 0.011 0.011	0.009 0.007 0.011 0.011	30% 40% 25% 25%	0.009 0.007 0.011 0.011	30% 40% 25% 25%

Table 2. Repairable Damage Limits After Blending (Continued)


Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (19)	Retainer Zone A1	0.032	0.012	0.012	25%	0.012	25%
Fig 1 (20)	Fairing Zone A1	0.016	0.003	0.003	100%	0.003	100%
	Zone A1	0.032	0.006	0.006	100%	0.006	100%
	Zone A1	0.055	0.011	0.011	100%	0.011	100%
	Zone A1	0.080	0.016	0.016	100%	0.016	100%
Fig 1 (21)	Skin Zone B3	0.049	0.005	0.005	30%	0.005	30%
	Zone B3	0.063	0.005	0.005	30%	0.005	30%
	Zone B3	0.090	0.009	0.009	30%	0.009	30%
	Zone A3	0.090	0.009	0.009	30%	0.009	30%
Fig 1 (22)	Skin Zone B3	0.044	0.007	0.007	50%	0.007	50%
	Zone B3	0.063	0.013	0.013	50%	0.013	50%
	Zone B3	0.090	0.018	0.018	50%	0.018	50%
	Zone A3	0.090	0.018	0.018	60%	0.018	60%
Fig 1 (23) 	Skin Zone B3	0.044	0.007	0.007	50%	0.007	50%
	Zone A3	0.044	0.007	0.007	60%	0.007	60%
	Zone A4	0.050	0.009	0.009	50%	0.009	50%
	Zone B3	0.050	0.009	0.009	50%	0.009	50%
	Zone B4	0.050	0.009	0.009	50%	0.009	50%
	Zone C3	0.074	0.009	0.009	30%	0.009	30%
	Zone A3	0.063	0.013	0.013	50%	0.013	50%
	Zone A4	0.090	0.018	0.018	60%	0.018	60%
	Zone A3	0.090	0.018	0.018	60%	0.018	60%
	Zone A3	0.090	0.018	0.018	50%	0.018	50%
	Zone A3	0.090	0.018	0.018	60%	0.018	60%
	Zone B3	0.063	0.007	0.007	40%	0.007	40%
	Zone B3	0.049	0.009	0.009	40%	0.009	40%
Fig 1 (24)	Fairing Zone A1	0.016	0.003	0.003	100%	0.003	100%
	Zone A1	0.032	0.006	0.006	100%	0.006	100%
	Zone A1	0.080	0.016	0.016	100%	0.016	100%
	Zone A1	0.055	0.011	0.011	100%	0.011	100%
Fig 1 (25)	Fairing Zone A1	0.040	0.008	0.008	100%	0.008	100%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (26)	Skin	0.066	0.007	0.007	60%	0.007	60%
	Zone A2 Zone A2	0.090	0.016	0.016	60%	0.016	60%
Fig 1 (27)	Skin	0.049	0.009	0.009	40%	0.009	40%
	Zone B3 Zone B3	0.090	0.018	0.018	60%	0.018	60%

NOTES

- 1 For locations see figure 2, detail M, Zone R.
- 2 For locations see figure 2, detail M, Zone Q.
- 3 These allowables apply to Zone A3 lands not in Zone Q or R of figure 2.

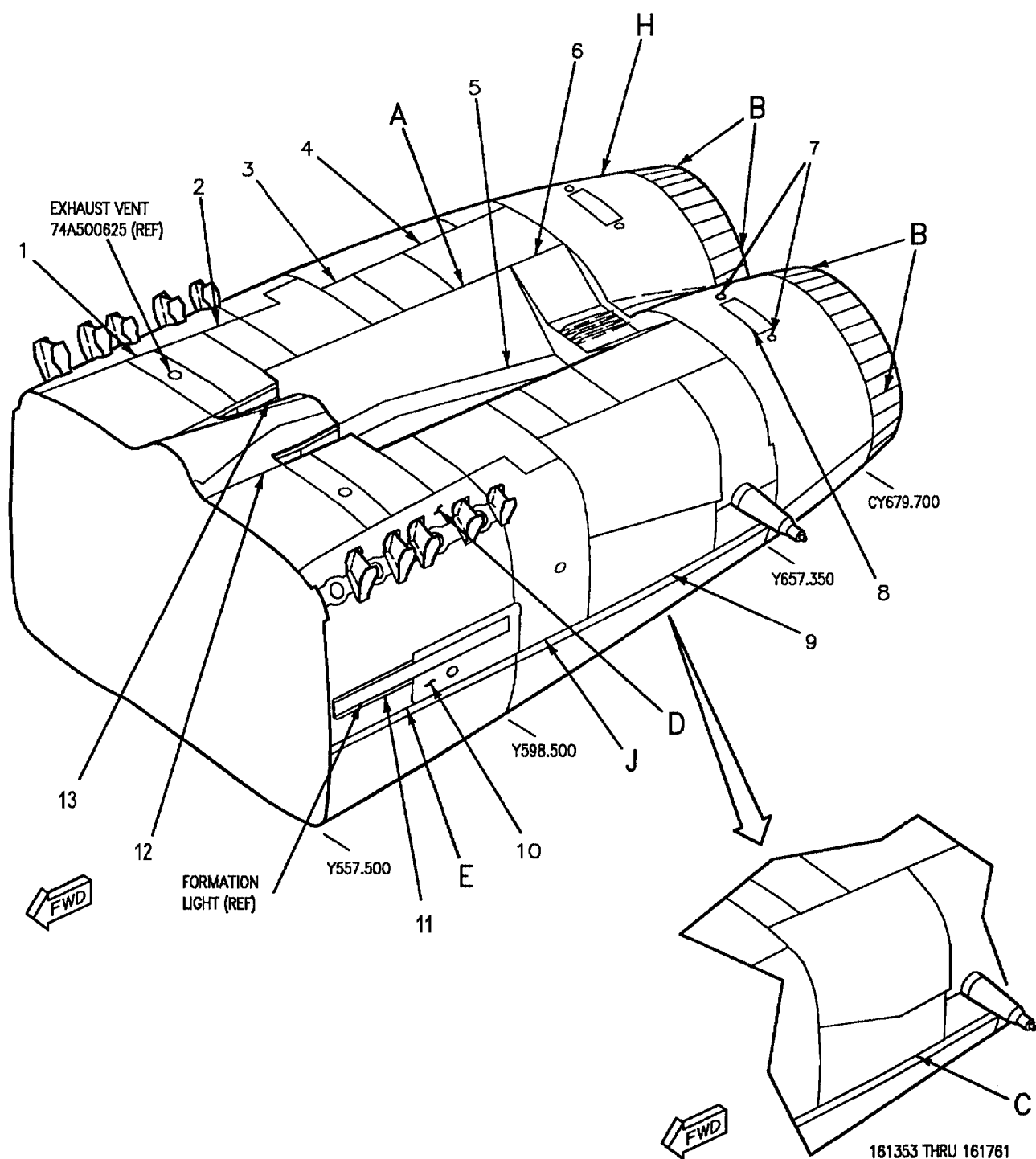


Figure 1. Material Index (Sheet 1)

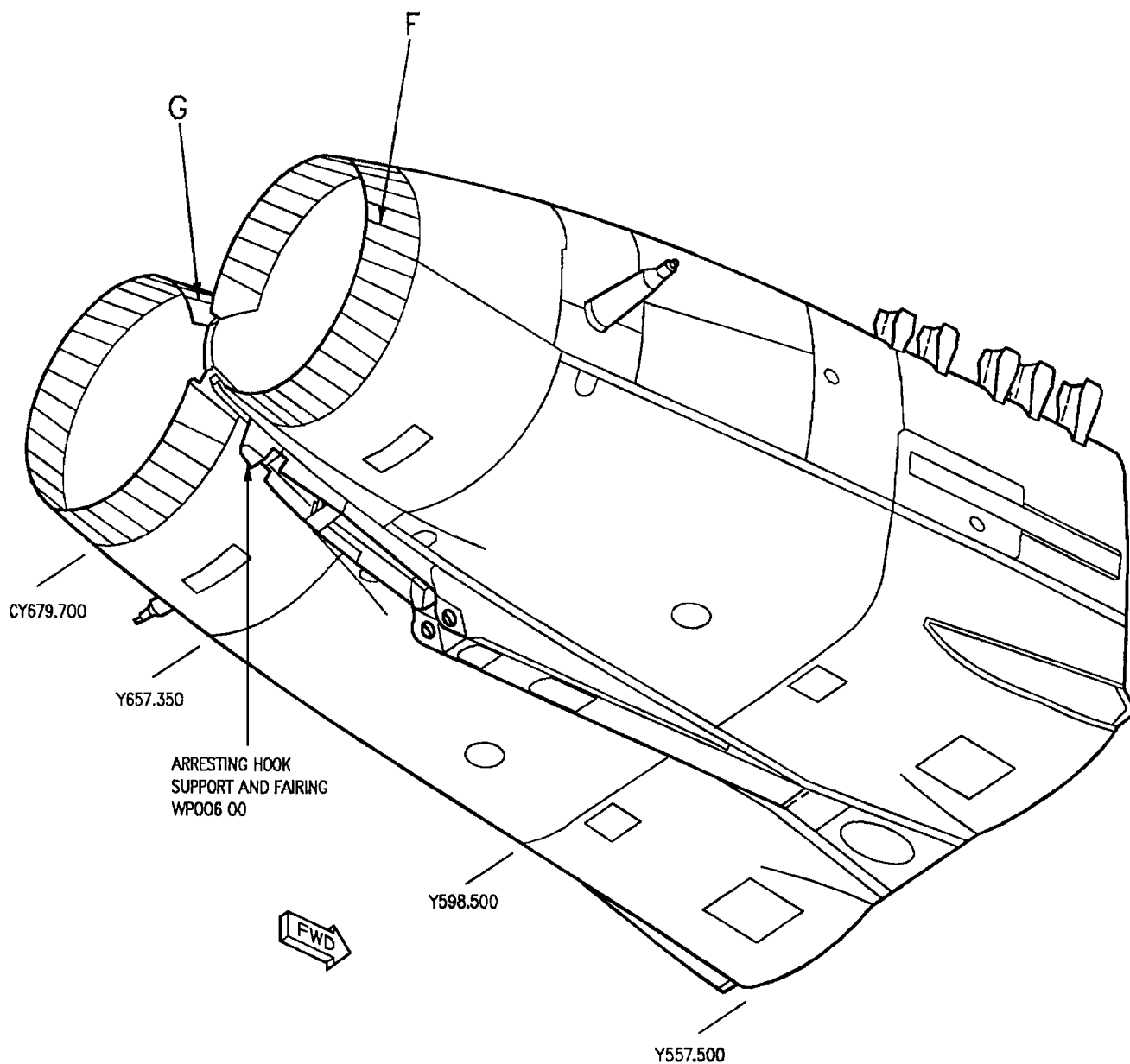
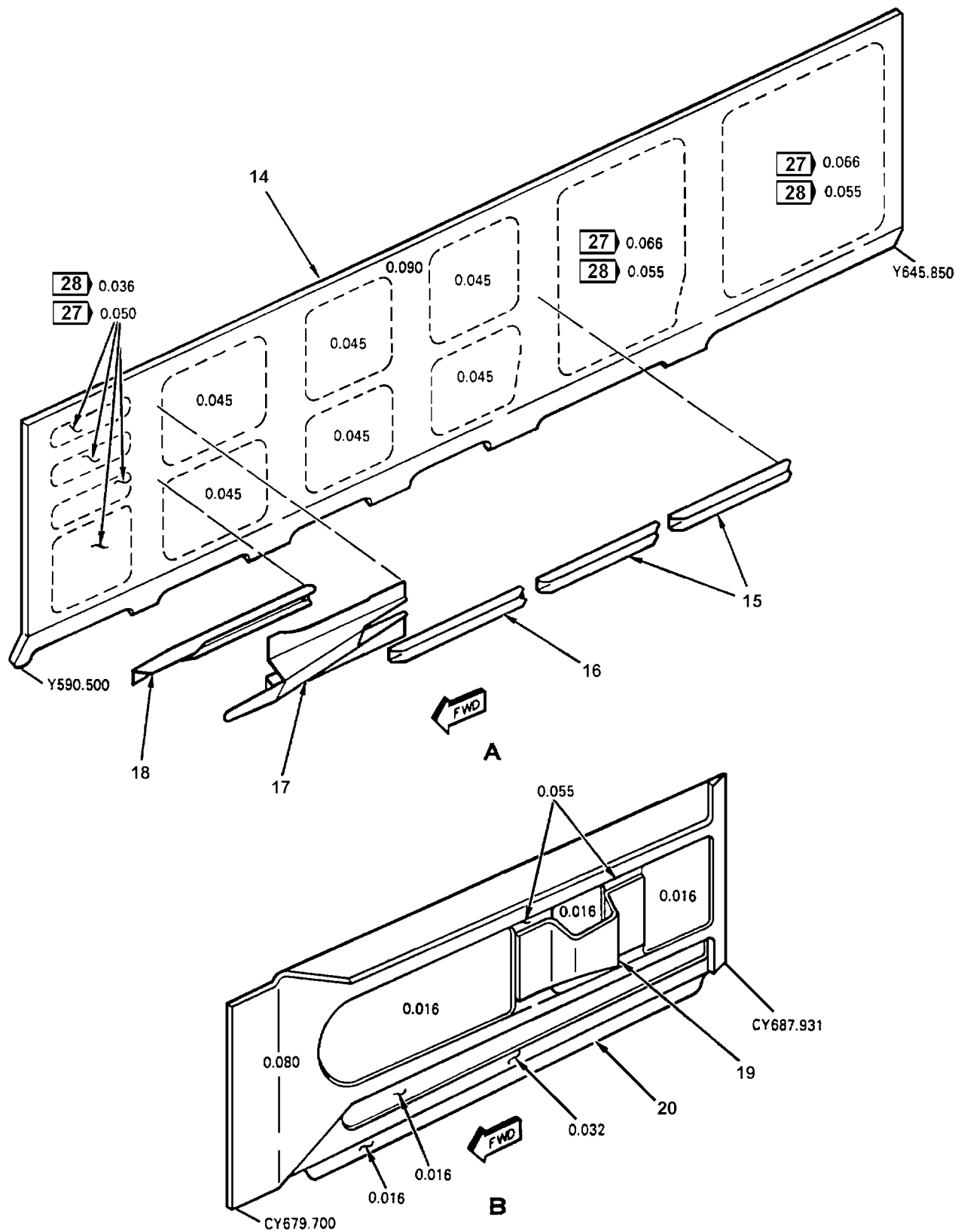


Figure 1. Material Index (Sheet 2)



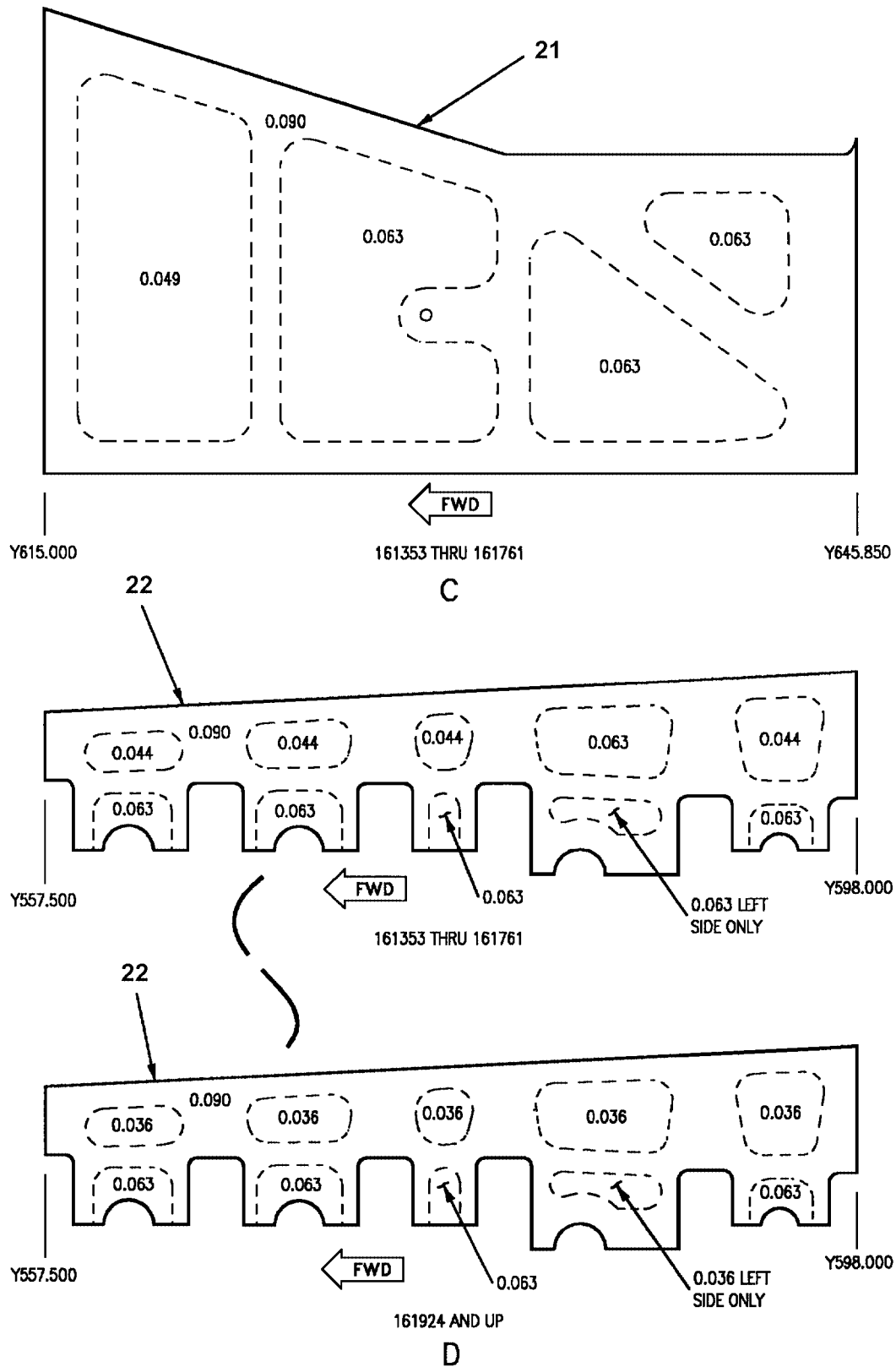


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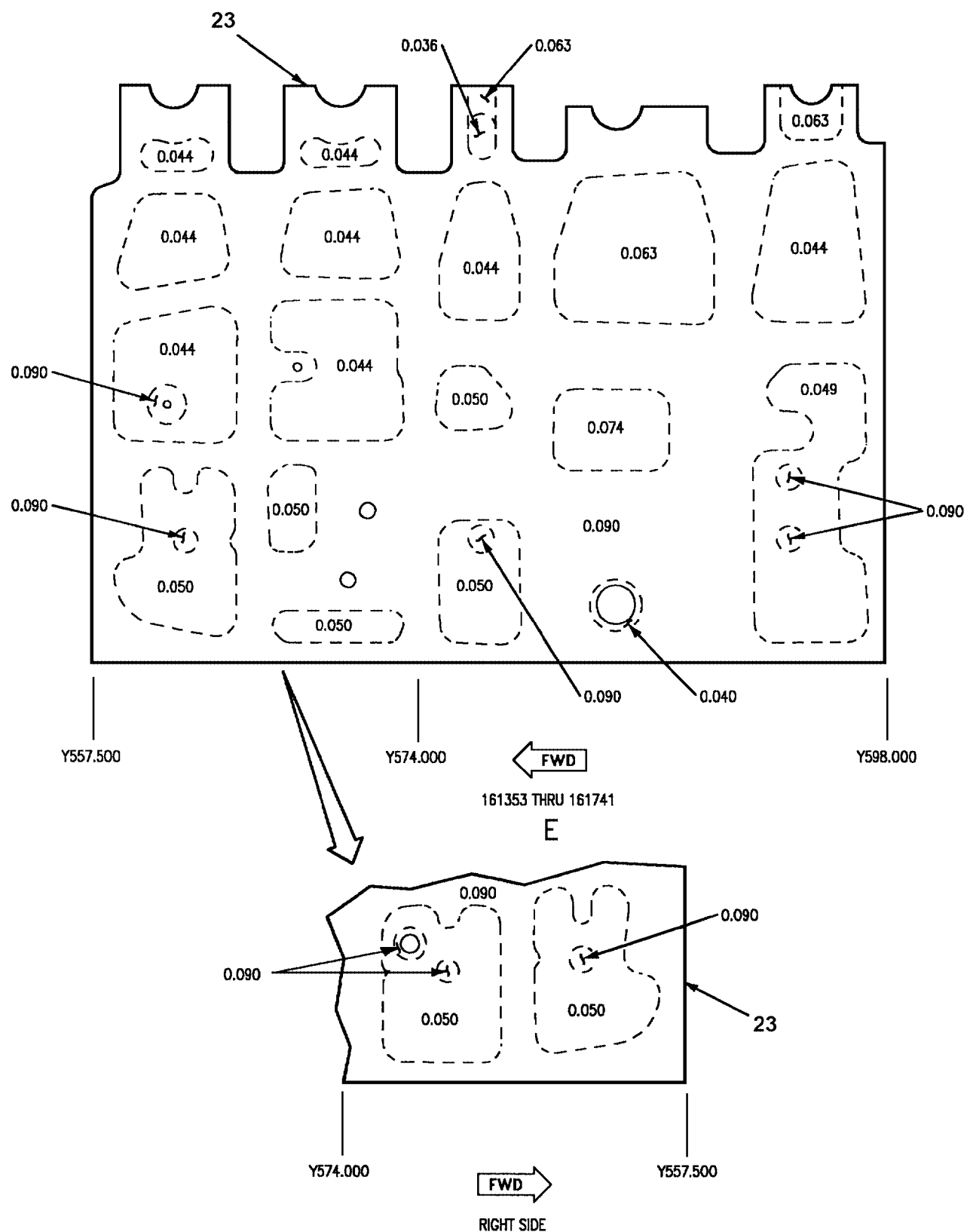


Figure 1. Material Index (Sheet 5)

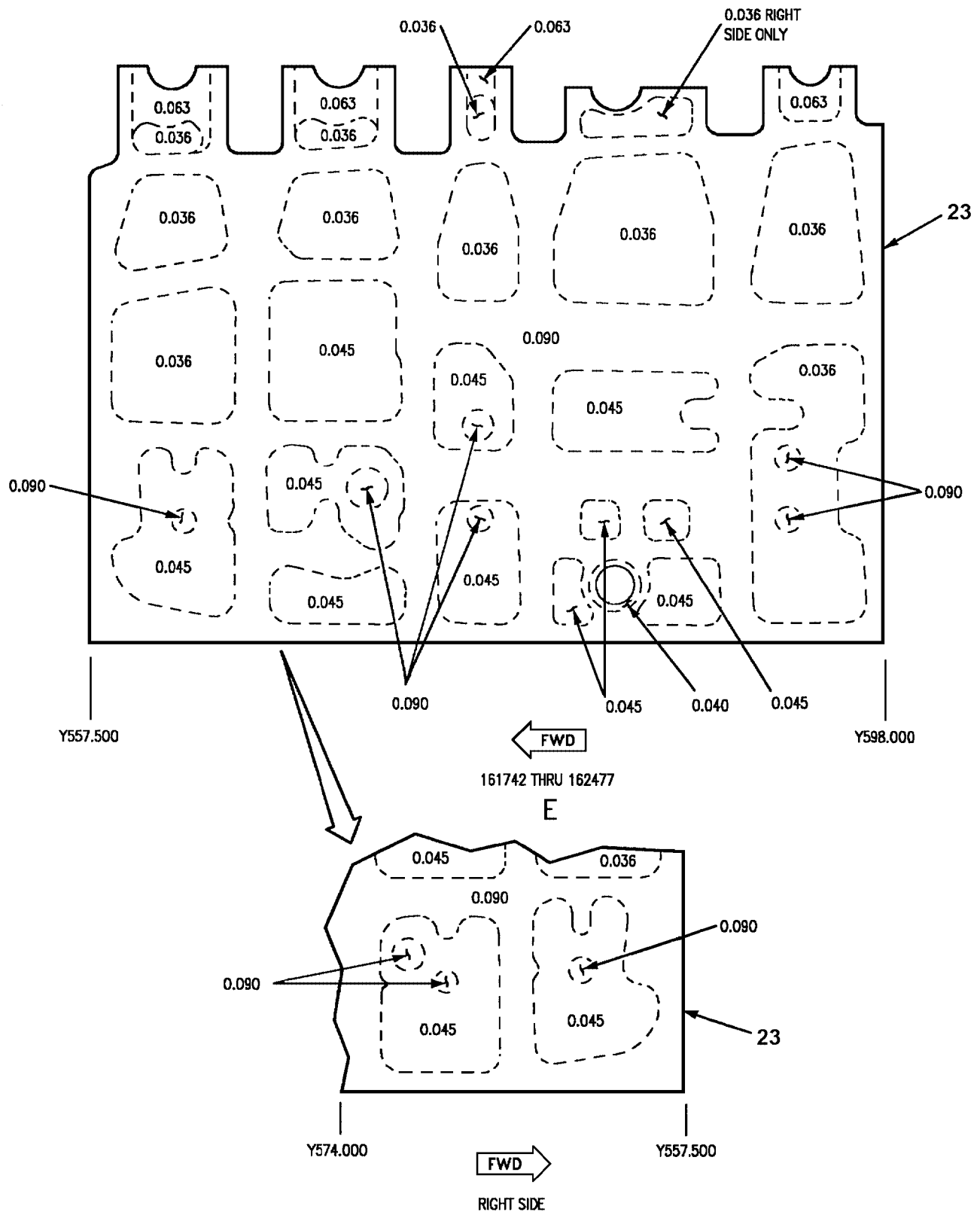


Figure 1. Material Index (Sheet 6)

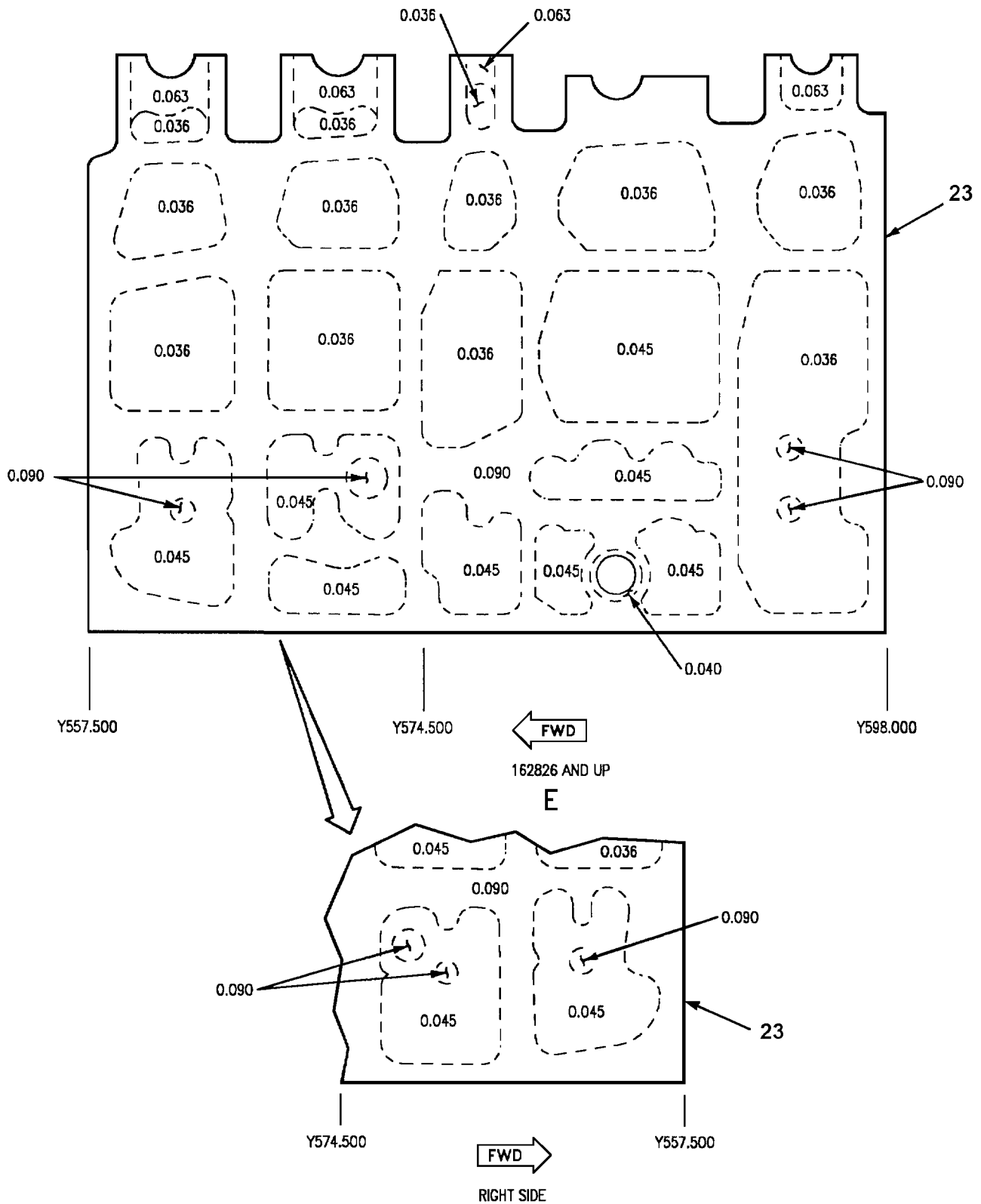
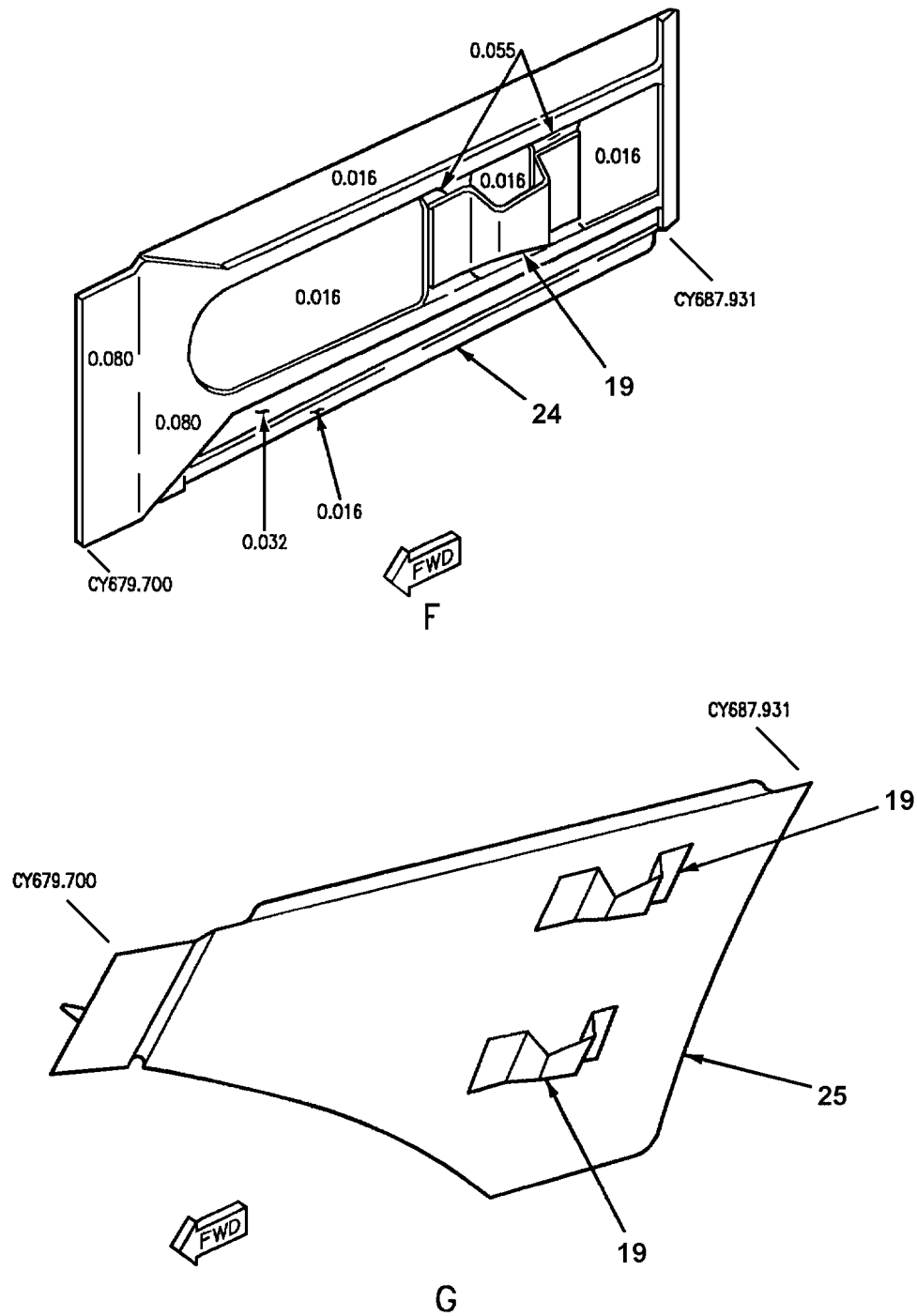
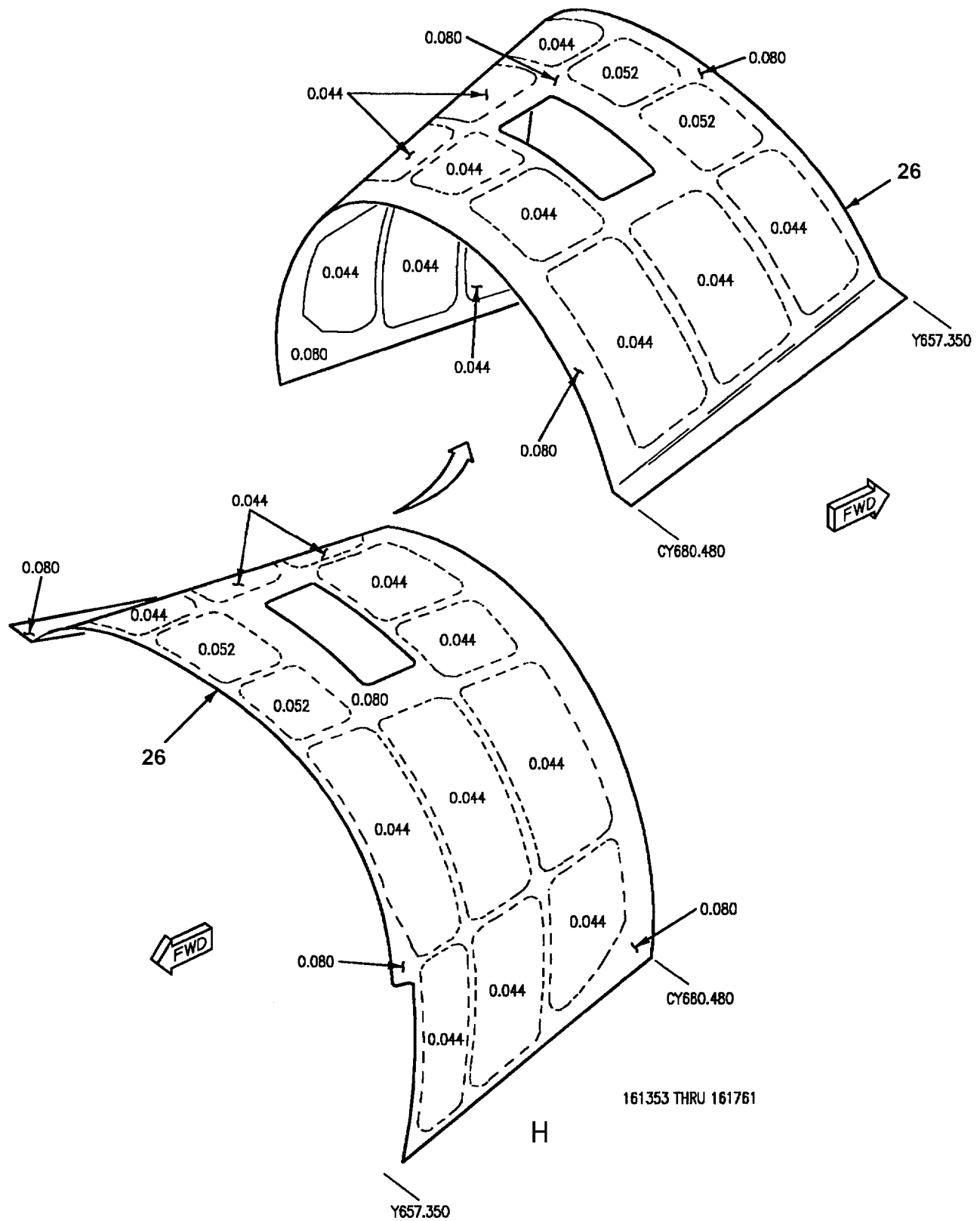


Figure 1. Material Index (Sheet 7)





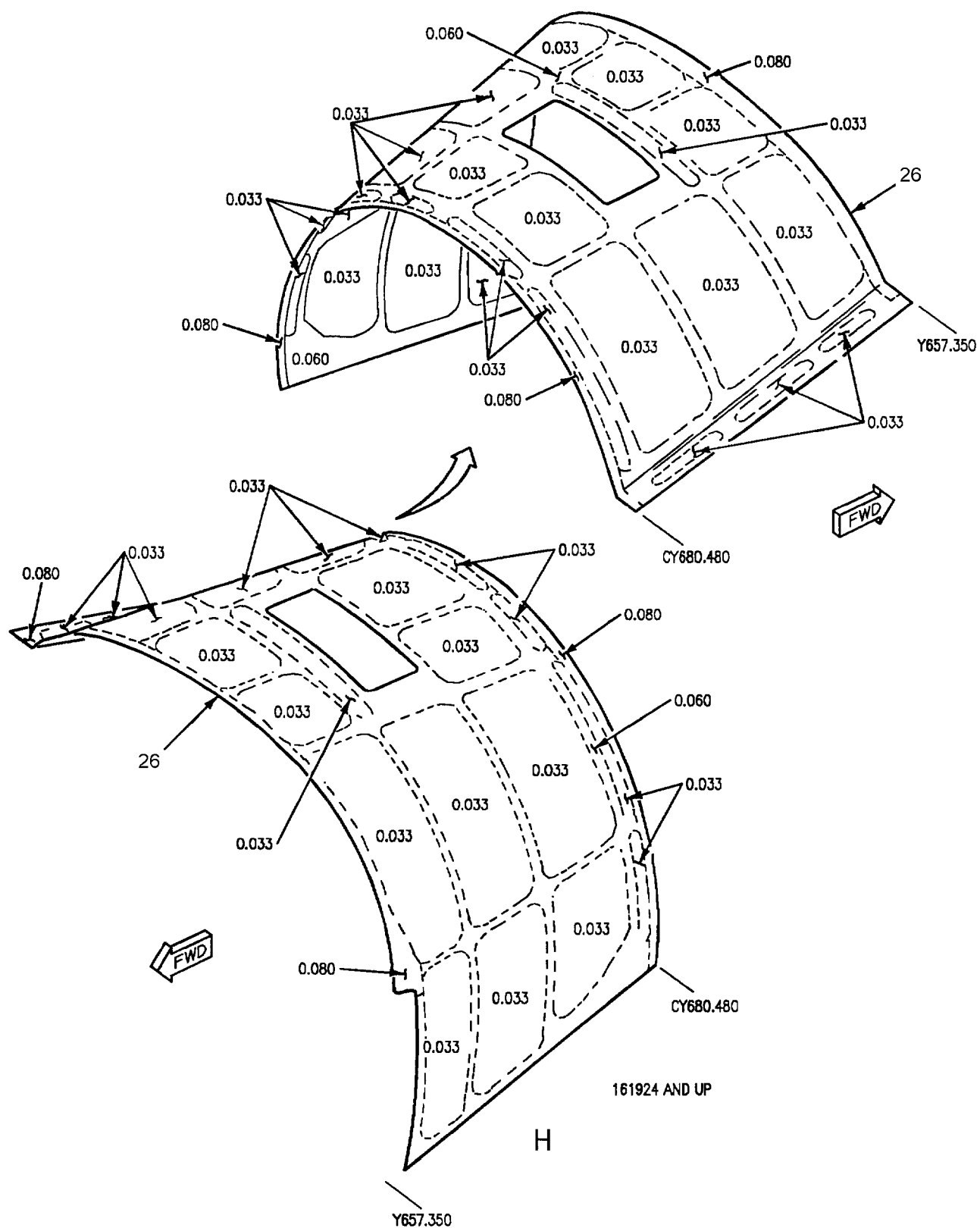


Figure 1. Material Index (Sheet 10)

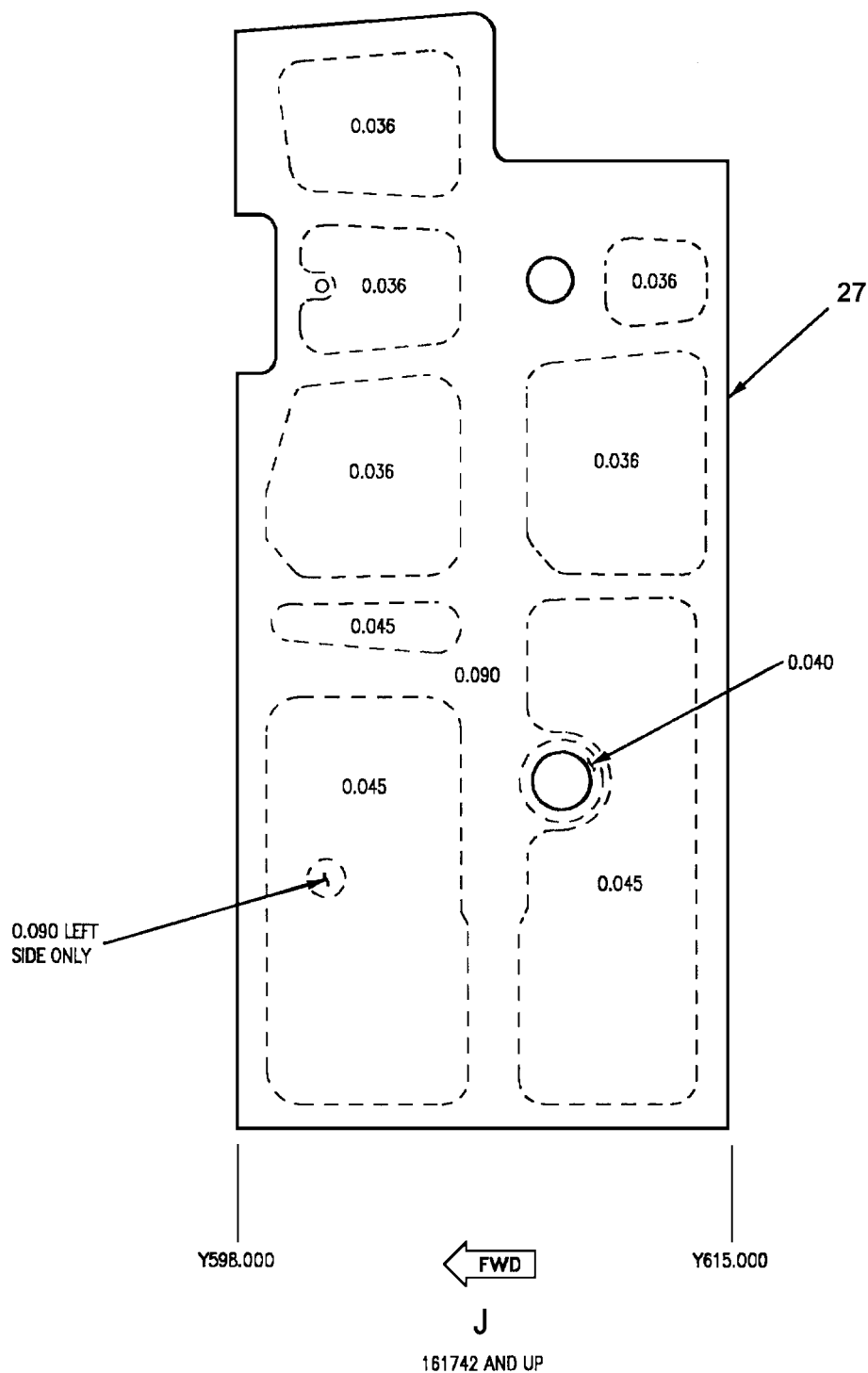


Figure 1. Material Index (Sheet 11)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1	 	Skin 74A330740-2002, -2001 74A330740-2010, -2009	Sheet Sheet	7075-T76 Alclad
2 R L R L	 	Skin 74A330740-2004 74A330740-2003 74A330740-2012 74A330740-2011	Sheet Sheet	7075-T76 Alclad
3 R L R L	 	Skin 74A330740-2006 74A330740-2005 74A330740-2014 74A330740-2013	Sheet Sheet	7075-T76 Alclad
4	 	Skin 74A330740-2008, -2007 74A330740-2016, -2015	Sheet Sheet	7075-T76 Alclad
5	 	Skin 74A330700-2009 74A330700-2021	Sheet Sheet	7075-T76 Alclad
6	 	Skin 74A330700-2002, -2001 74A330700-9026, -9025 74A330700-2024, -2023	Sheet Sheet	7075-T76 Alclad
7	 	Receptacle 52171A-4C1-080 52171A-4CA-060	Body	17-4 Cres
8	 	Panel 74A330866-9003 Frame 74A330886-9001 Panel 74A330866-2005 74A330866-2009	0.025 Perforated Sheet 0.025 Sheet 0.025 Perforated Sheet	302 Cres 6A1-4V Ti Anl
9	 	Skin 74A330750-2049, -2050 74A330750-2053, -2054 74A330750-2067, -2068	Sheet	7075-T76 Alclad
10		Doubler 74A093150-2061, -2062	0.090 Sheet	7075-T76 Alclad
11		Filler 74A093150-2063	0.090 Sheet	7075-T76 Alclad
12	 	Skin 74A330700-2007, -2008 74A330700-2019, -2020	Sheet Sheet	7075-T76 Alclad

Figure 1. Material Index (Sheet 12)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
13	<div>16</div> <div>17</div> <div>11</div>	Closure Angle 74A332133-2004, -2003 74A332133-9002, -9001 74A332133-2006, -2005	0.090 Sheet	7075-T76 Alclad
14	<div>38</div> <div>39</div>	Skin 74A330700-2015, -20216 74A330700-2023-2024	19 Sheet	7075-T76 Alclad
15		Stiffener 74A332546-2019	1MA120D06-10005 Extr	7075-T76511 Al Aly
16		Stiffener 74A332546-2021	1MA120D06-10005 Extr	7075-T76511 Al Aly
17	<div>13</div> <div>12</div>	Intercostal 74A332662-9003, -9004 74A332662-2009, -2010	Bar Forging	7075-T73511 Al Aly 7075-T73 Al Aly
18		Intercostal 74A332663-2003, -2004	Forging	7075-T73 Al Aly
19	<div>56</div> <div>57</div>	Retainer 74A330836-2001 74A330836-2007	0.032 Sheet	301 Cres 1/4-Hard
20		Fairing Segment 74A330832-2007, -2008	19 Sheet	6A1-4V Ti Anl
21	<div>27</div>	Skin 74A330750-2031, -2032	19 Sheet	7075-T76 Alclad
22 L R L R L R L R	<div>7</div> <div>21</div> <div>22</div> <div>23</div> <div>24</div> <div>36</div> <div>37</div> <div>48</div> <div>49</div> <div>50</div> <div>51</div>	Skin 74A330750-2007, -2008 74A330750-9045 74A330750-9046 74A330750-2045 74A330750-2046 74A330750-2035, -2036 74A330750-2057 74A330750-2058 74A330750-9061 74A330750-9062 74A330750-2065, -2066	19 Sheet	7075-T76 Alclad

Figure 1. Material Index (Sheet 13)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
23	<div>7</div> <div>25</div> <div>18</div> <div>32</div> <div>33</div> <div>37</div> <div>52</div> <div>53</div> <div>54</div>	Skin 74A330750-2033, -2034 74A330750-9047, -9048 74A330750-2047, -2048 74A330750-2041, -2042 74A330750-2055, -2056 74A330750-2059 74A330750-2060 74A330750-2052 74A330750-2061, -2062	<div>19</div> Sheet	7075-T76 Alclad
24		Fairing Segment 74A330832-2005, -2006	<div>19</div> Sheet	6A1-4V Ti Anl
25	<div>56</div> <div>57</div>	Fairing 74A330835-2011, -2012 74A330835-2025, -2026	0.040 Sheet	6A1-4V Ti Anl
26	<div>27</div> <div>42</div> <div>43</div> <div>55</div> <div>5</div>	Skin 74A333760-2001, -2002 74A333760-2003, -2004 74A333760-2005, -2006 74A333760-9003, -9004 74A333760-2007, -2008	<div>19</div> Sheet <div>19</div> Sheet	2024-T72 Alclad 7075-T62 Alclad
27	<div>9</div> <div>10</div> <div>44</div> <div>49</div> <div>51</div>	Skin 74A330750-9043, -9044 74A330750-2043, -2044 74A330750-2037, -2038 74A330750-9063, -9064 74A330750-2063, -2064	<div>6</div> Sheet <div>19</div> Sheet	7075-T76 Alclad
LEGEND <div>1</div> Land is 0.090 thick and bay is 0.053 thick. <div>2</div> Land is 0.090 thick and bay is 0.060 thick. <div>3</div> Land is 0.090 thick and bay is 0.045 thick. <div>4</div> Land is 0.090 thick and bay is 0.066 thick. <div>5</div> 163130 AND UP. <div>6</div> Land is 0.090 thick and bay is 0.049 thick. <div>7</div> 161353 THRU 161361. <div>8</div> 161362 THRU 161761. <div>9</div> F/A-18A 161353 THRU 161739, F/A-18B 161354, 161355, 161360 THRU 161727. <div>10</div> F/A-18A 161741, F/A-18B 161356, 161357, 161733, 161740. <div>11</div> 161742 AND UP. <div>12</div> 161362 THRU 161520, F/A-18A 161710 AND UP, F/A-18B 161704, 161707. <div>13</div> 161353 THRU 161361, F/A-18A 161521 THRU 161709. <div>14</div> 161353 THRU 161711, 162398 THRU 62414. <div>15</div> 161353 THRU 161711, 162396 THRU 162411.				

Figure 1. Material Index (Sheet 14)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
16		161353 THRU 161357.		
17		161385 THRU 161741.		
18		161716 THRU 161741.		
19		Milled as shown.		
20		Land is 0.090 thick and bays are 0.036 thick.		
21		161362 THRU 161704.		
22		F/A-18A 161362 THRU 161712, F/A-18B 161704.		
23		161705 THRU 161761.		
24		F/A-18A 161713 THRU 161761, F/A-18B 161707 THRU 161746.		
25		161362 THRU 161715.		
26		Land is 0.090 thick and bays are 0.050 thick.		
27		161353 THRU 161761.		
28		161924 AND UP.		
29		161353 THRU 161761, 161932 THRU 161937.		
30		161924 THRU 161931, 161938 AND UP.		
31		Attached with NAS1097AD4 rivets, replace with NAS1097U4 or NAS1200-4 rivets, length determined on installation.		
32		161742 THRU 161927.		
33		161928 THRU 161932.		
34		161353 THRU 161761, 161963 THRU 161967.		
35		161924 THRU 161962, 161968 AND UP.		
36		161924 THRU 161932.		
37		161933 THRU 161477.		
38		161353 THRU 161761, 161973, 161974.		
39		161924 THRU 161972, 161975 AND UP.		
40		161712 THRU 161397, 162415 AND UP.		
41		161712 THRU 162395, 162412 AND UP.		
42		161924 THRU 161987, 162401.		
43		162394 THRU 162400, 162402 THRU 162874.		
44		161742 THRU 162477.		
45		161924 THRU 162443.		
46		162444 THRU 162834.		
47		162835 AND UP.		
48		161933 THRU 162469.		
49		162826 THRU 162852.		
50		162470 THRU 162852.		
51		162853 AND UP.		
52		161933 THRU 162429.		
53		162430 THRU 162477.		
54		162826 AND UP.		
55		162875 THRU 163129.		
56		161353 THRU 163102.		
57		163103 AND UP.		
58		161924 THRU 163173.		
59		163174 AND UP.		
60		162826 AND UP AFTER F/A-18 IAFC 119.		

Figure 1. Material Index (Sheet 15)

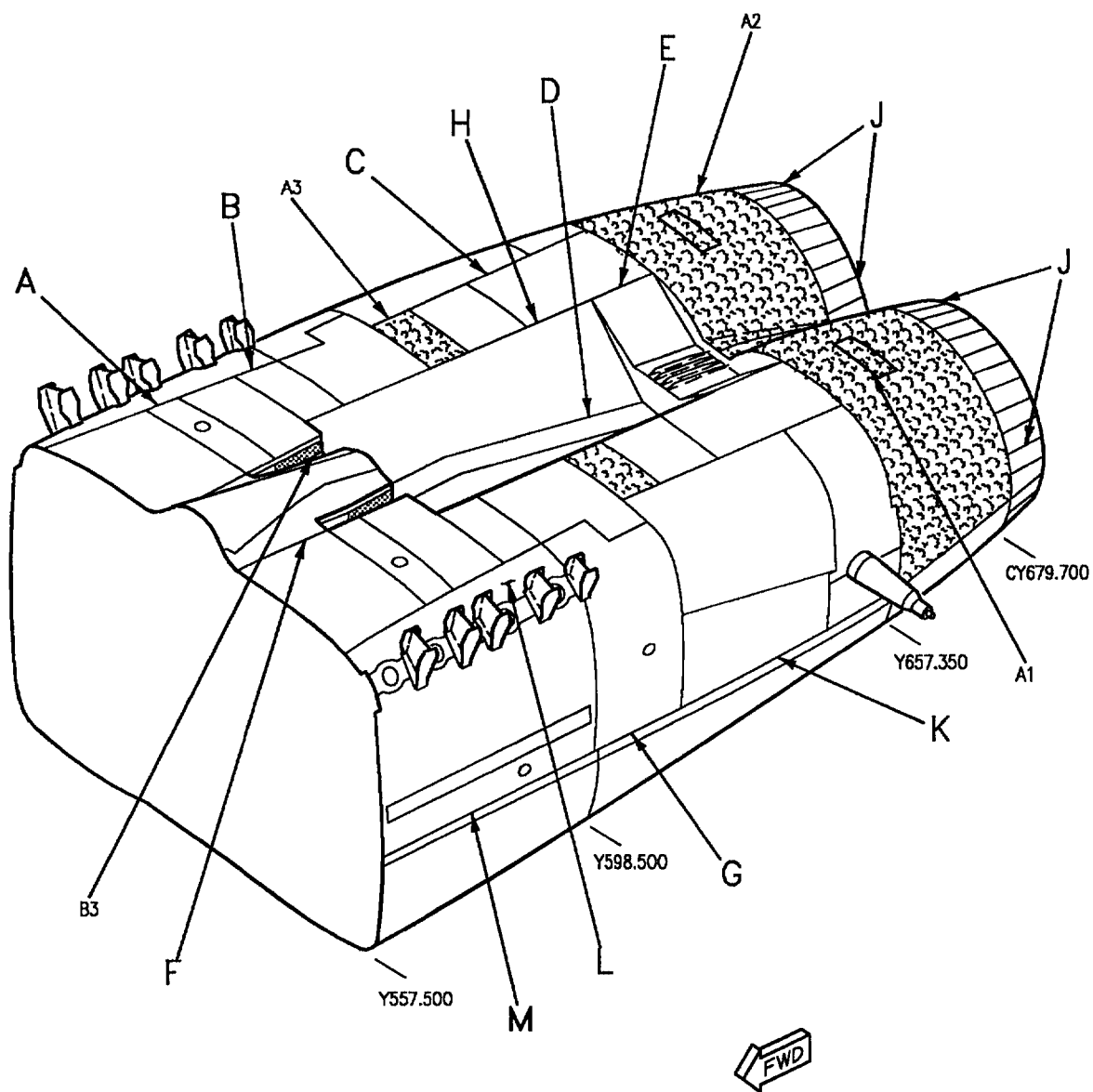


Figure 2. Repair Zones (Sheet 1)

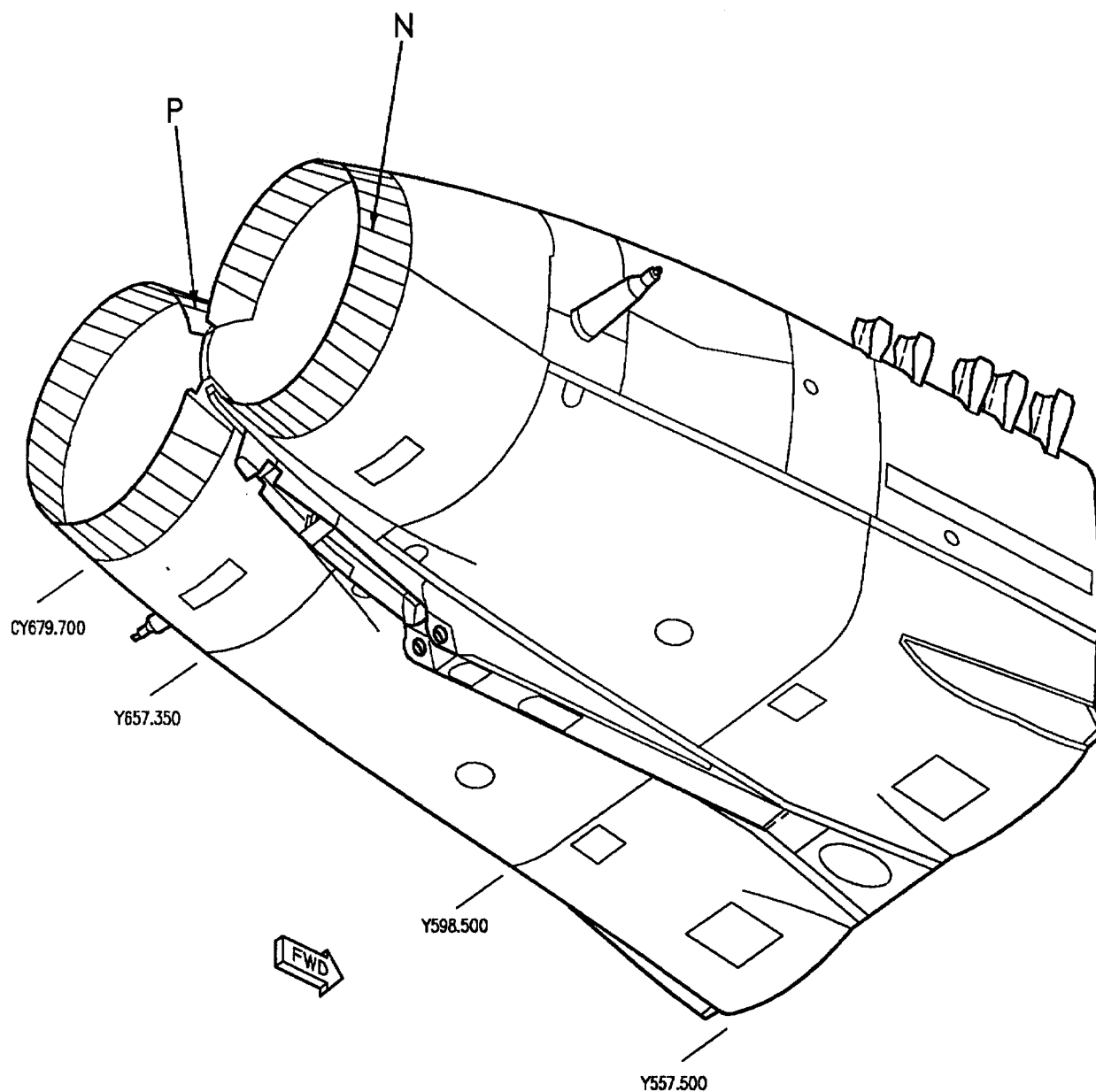


Figure 2. Repair Zones (Sheet 2)

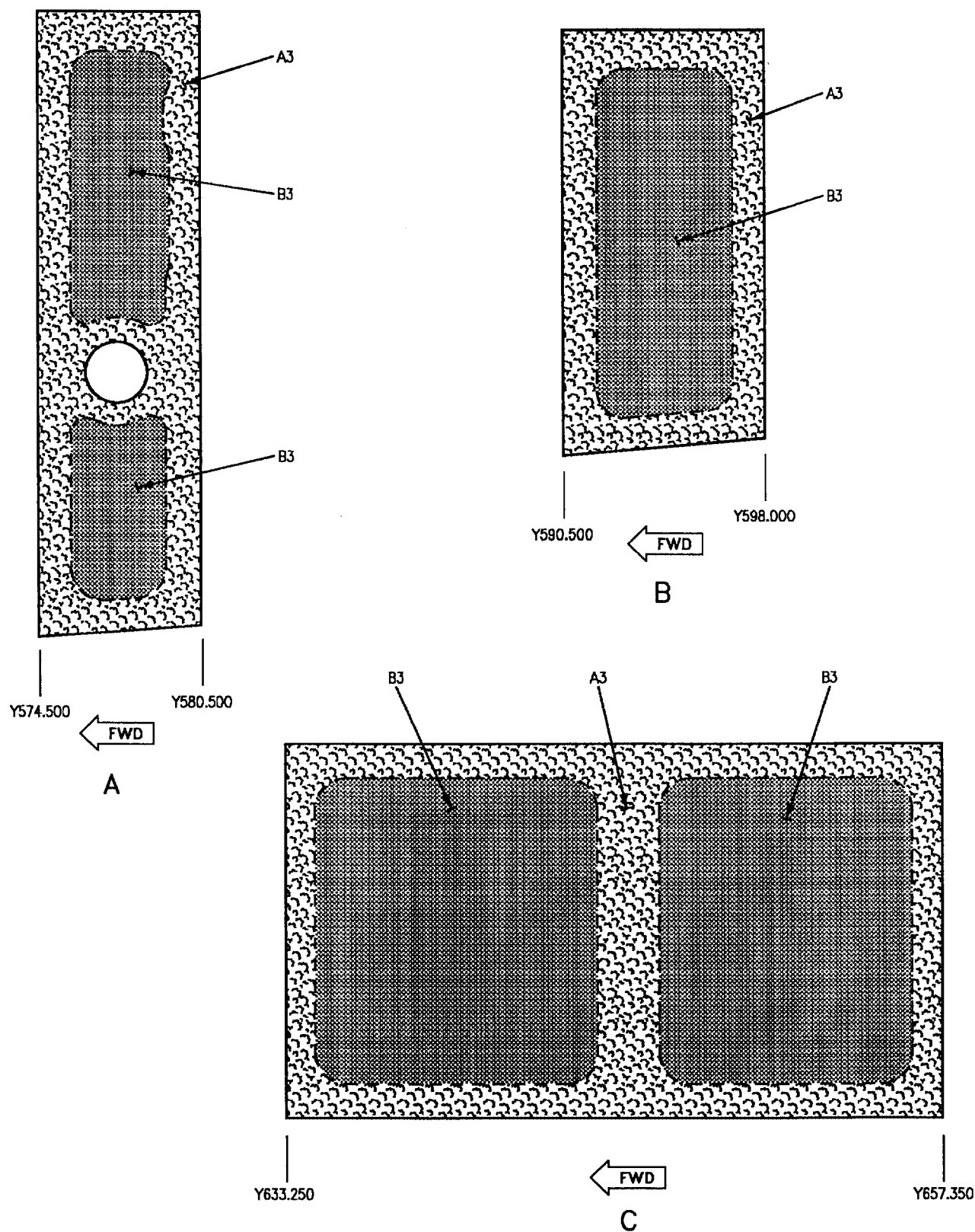


Figure 2. Repair Zones (Sheet 3)

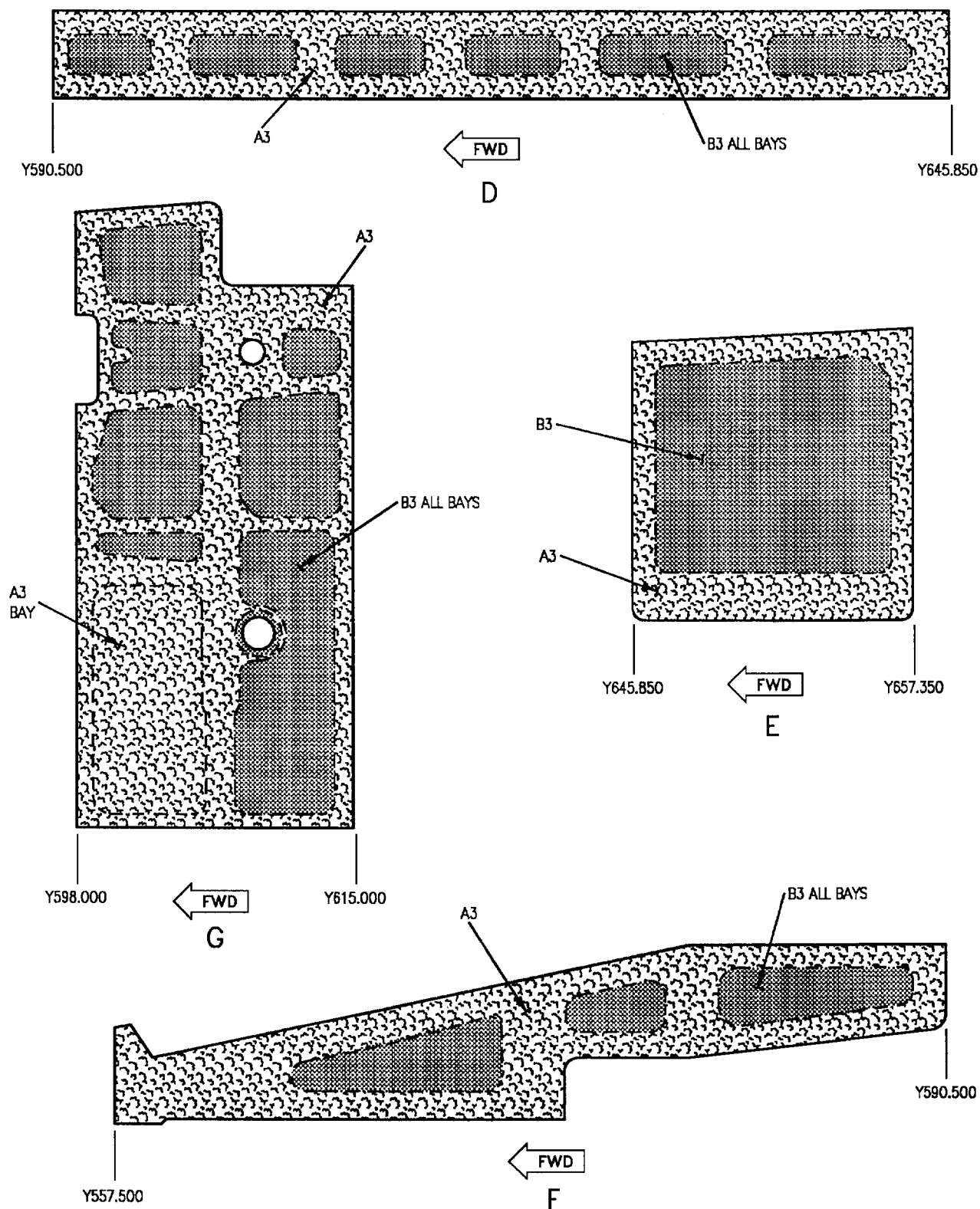


Figure 2. Repair Zones (Sheet 4)

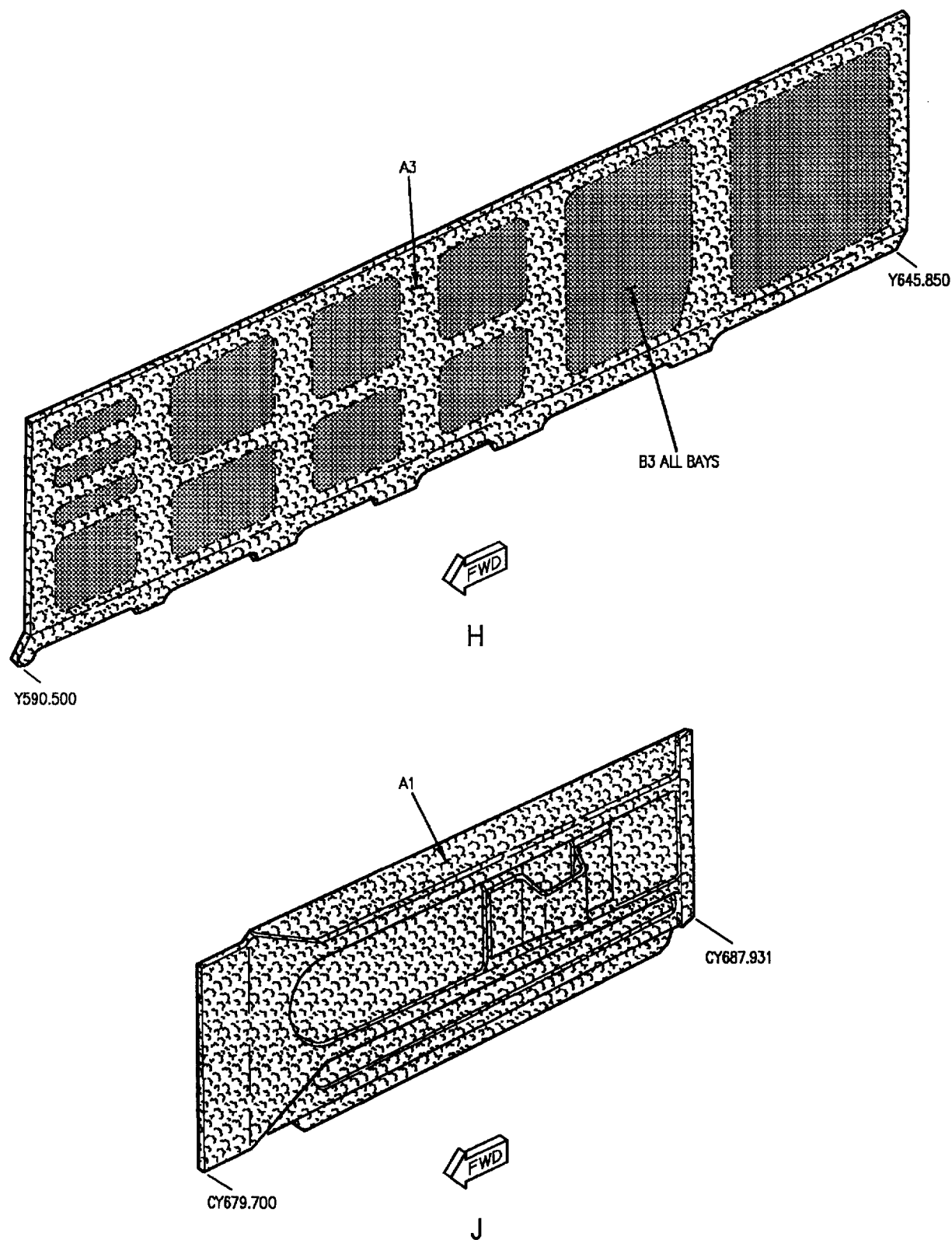


Figure 2. Repair Zones (Sheet 5)

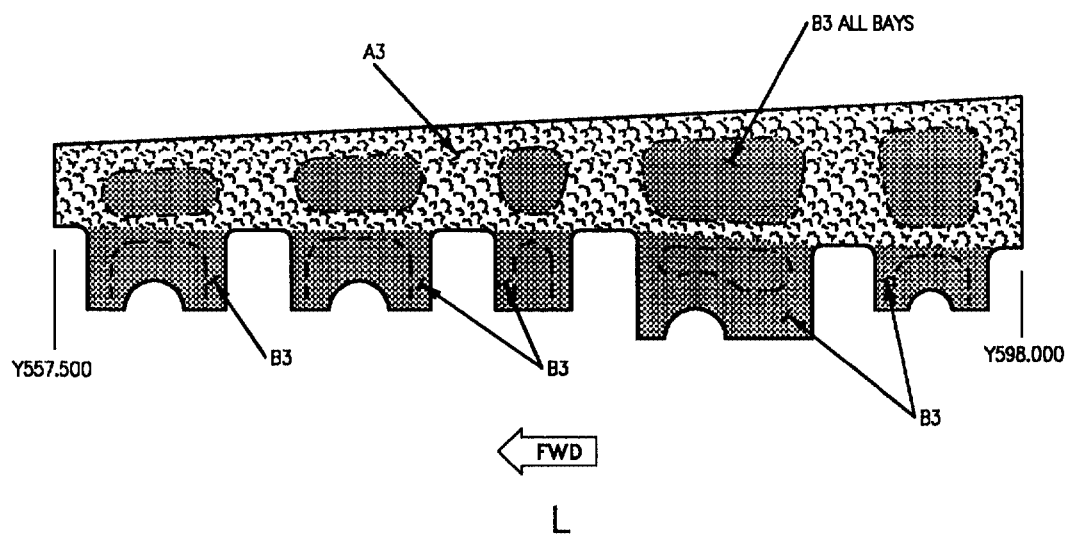
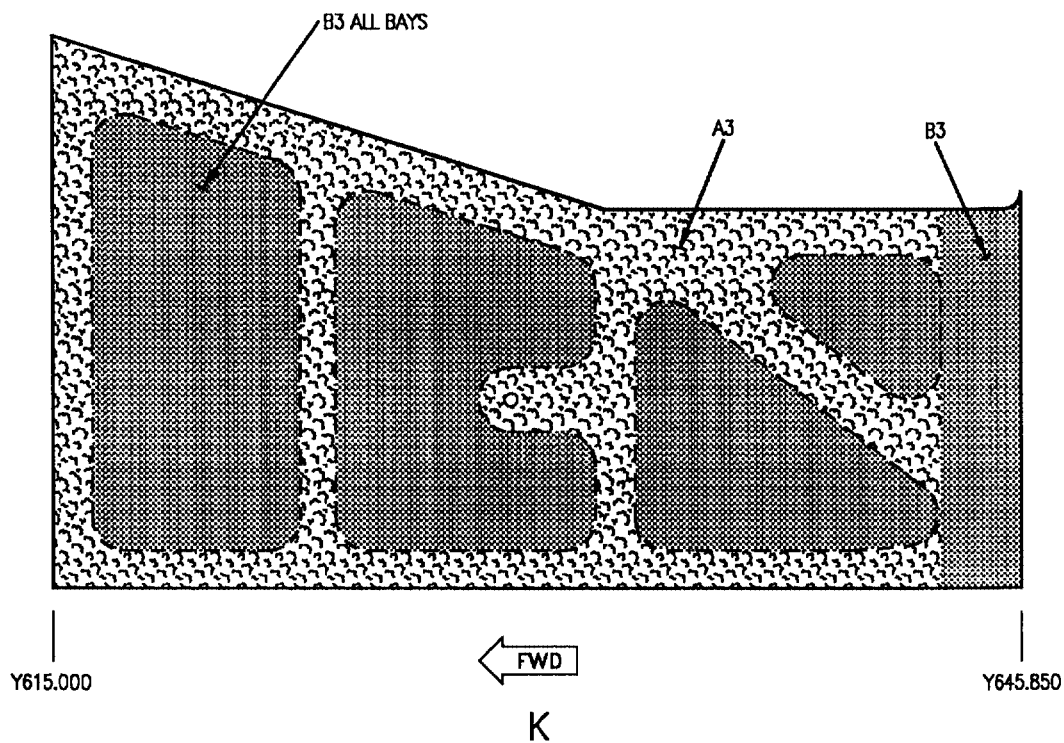


Figure 2. Repair Zones (Sheet 6)

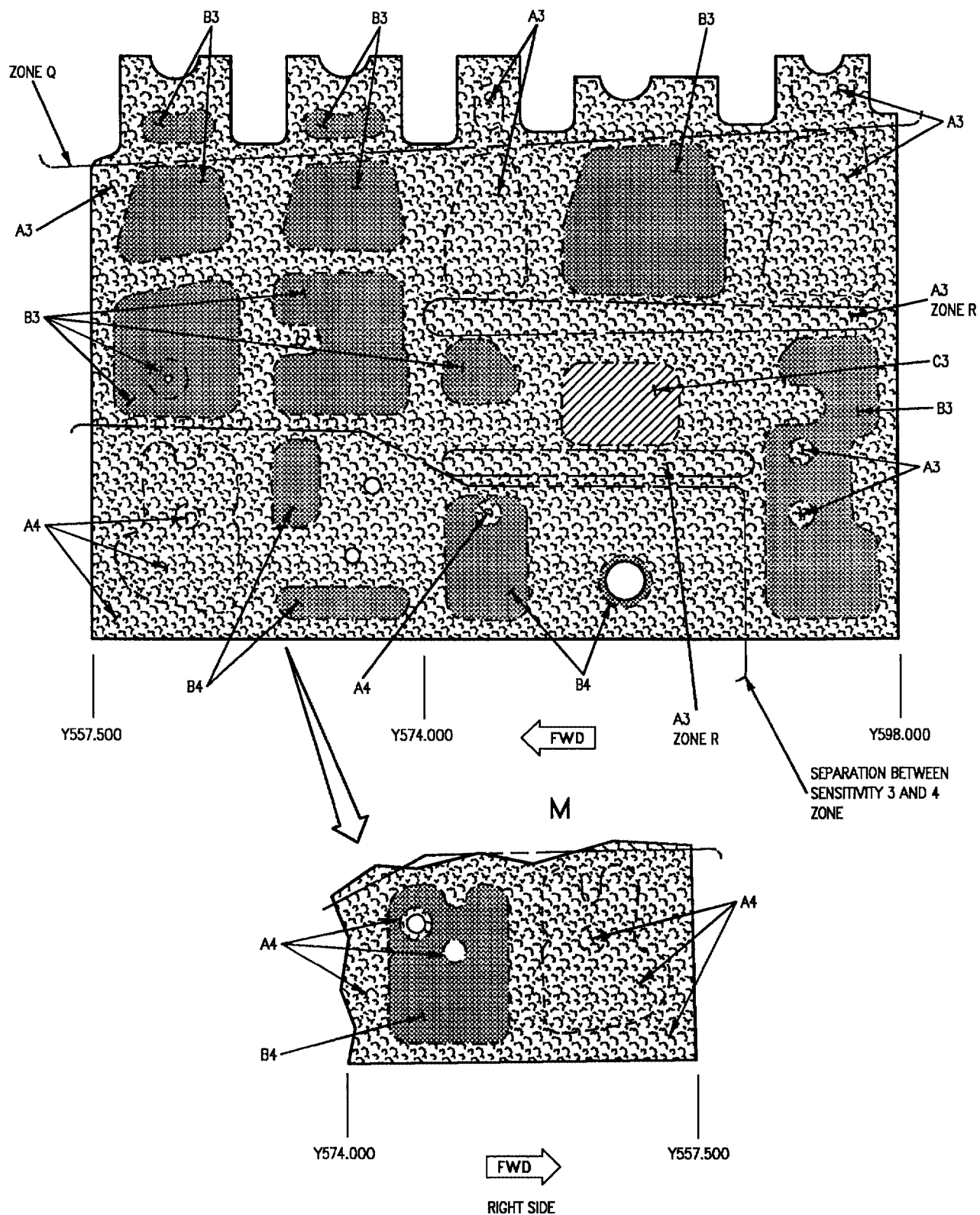


Figure 2. Repair Zones (Sheet 7)

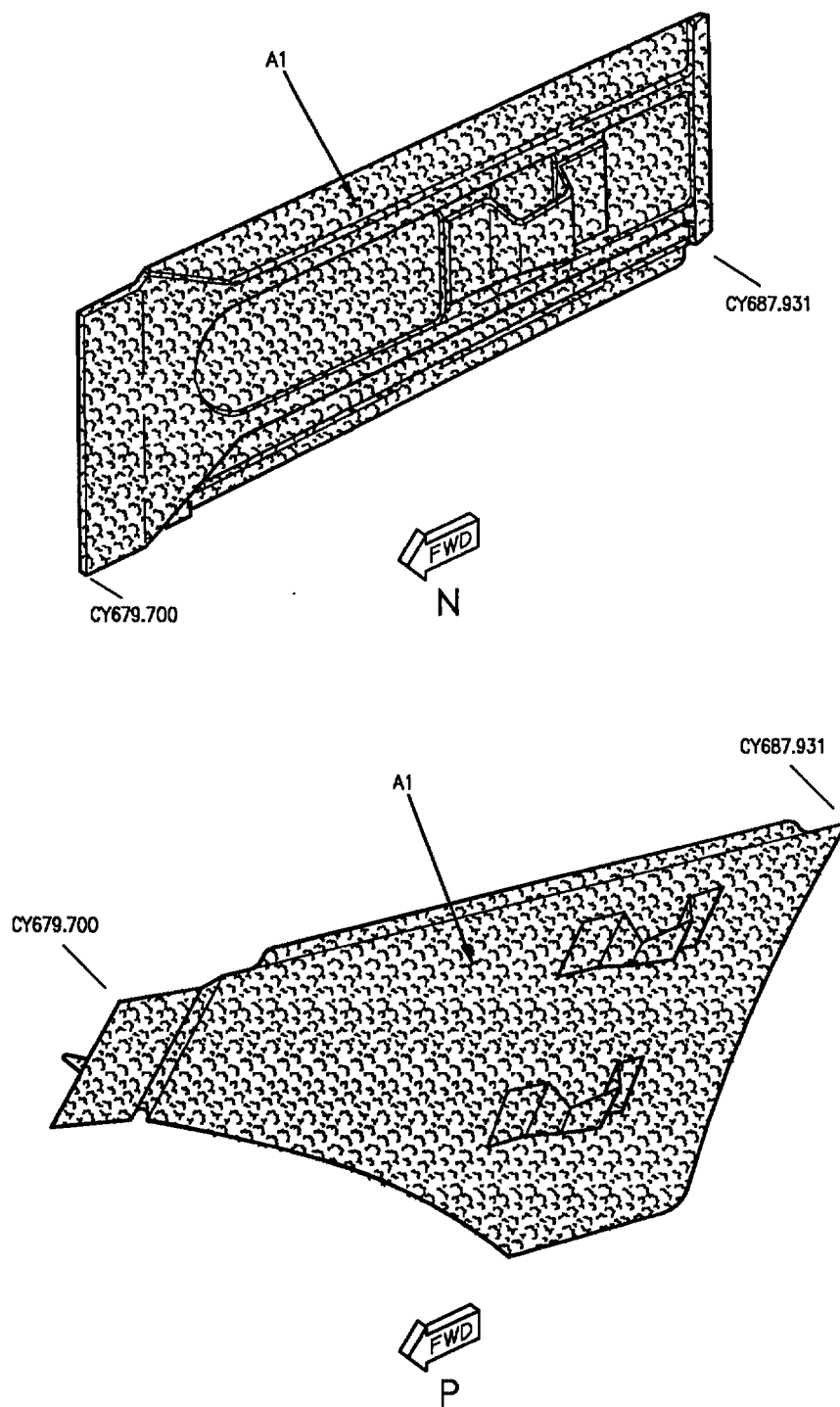


Figure 2. Repair Zones (Sheet 8)

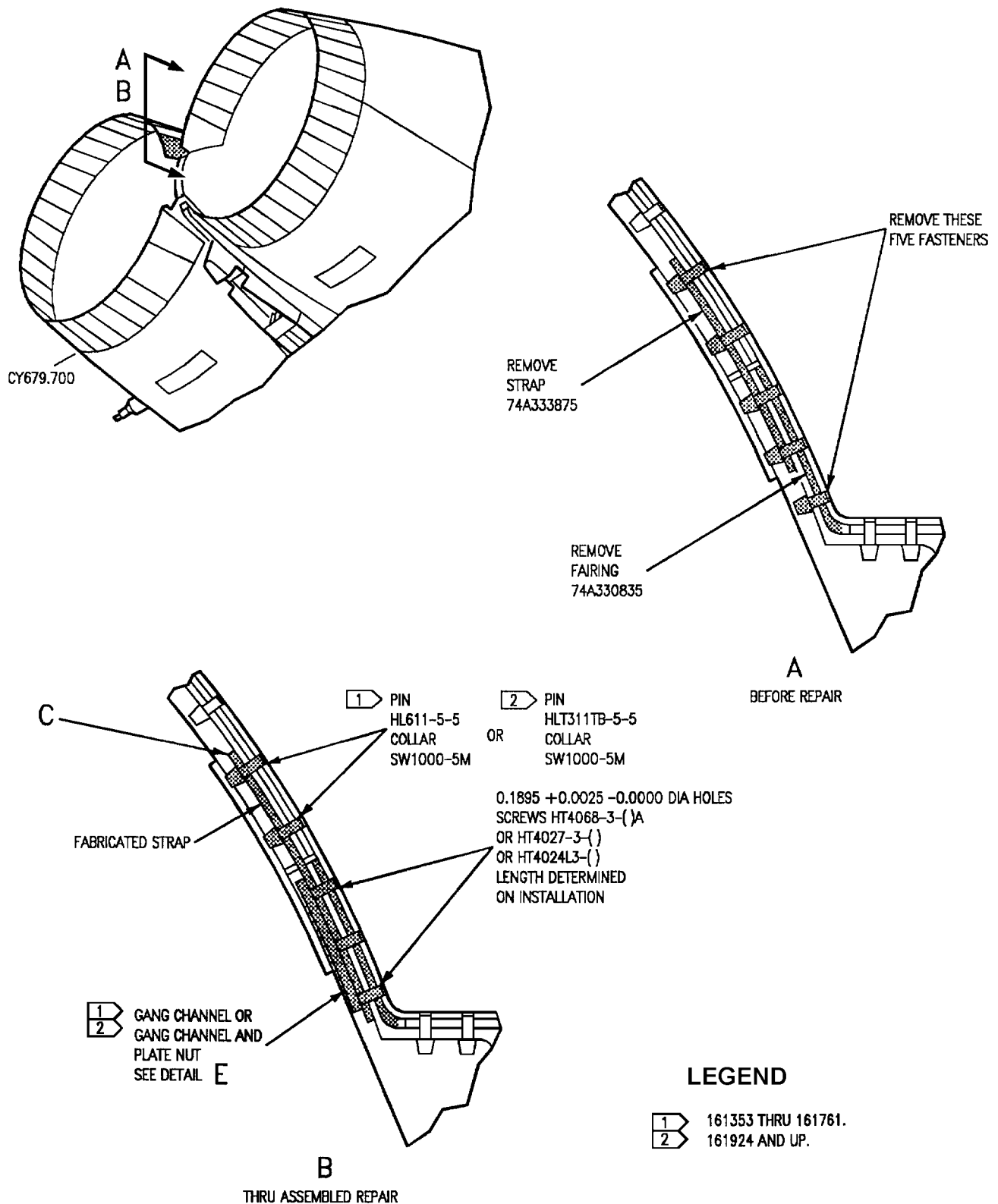
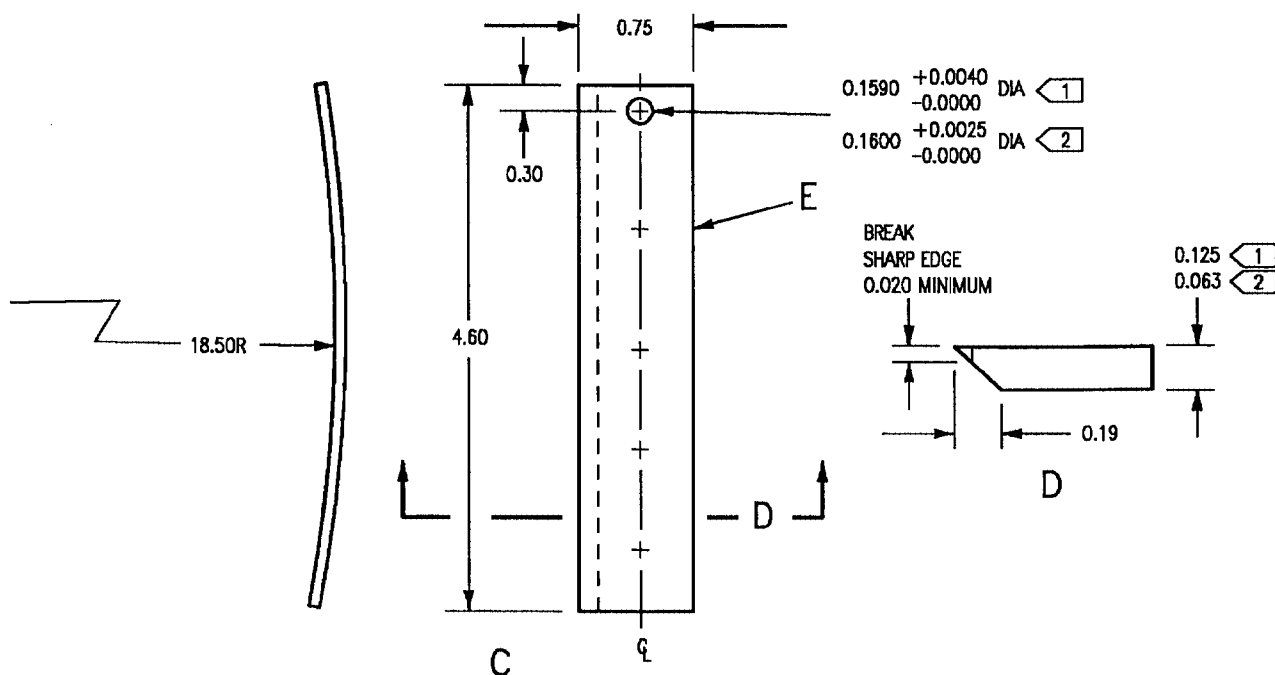


Figure 3. Fairing 74A330835 Repair (Sheet 1)



FABRICATE STRAP

MATERIAL: 7075-T6 ALCLAD

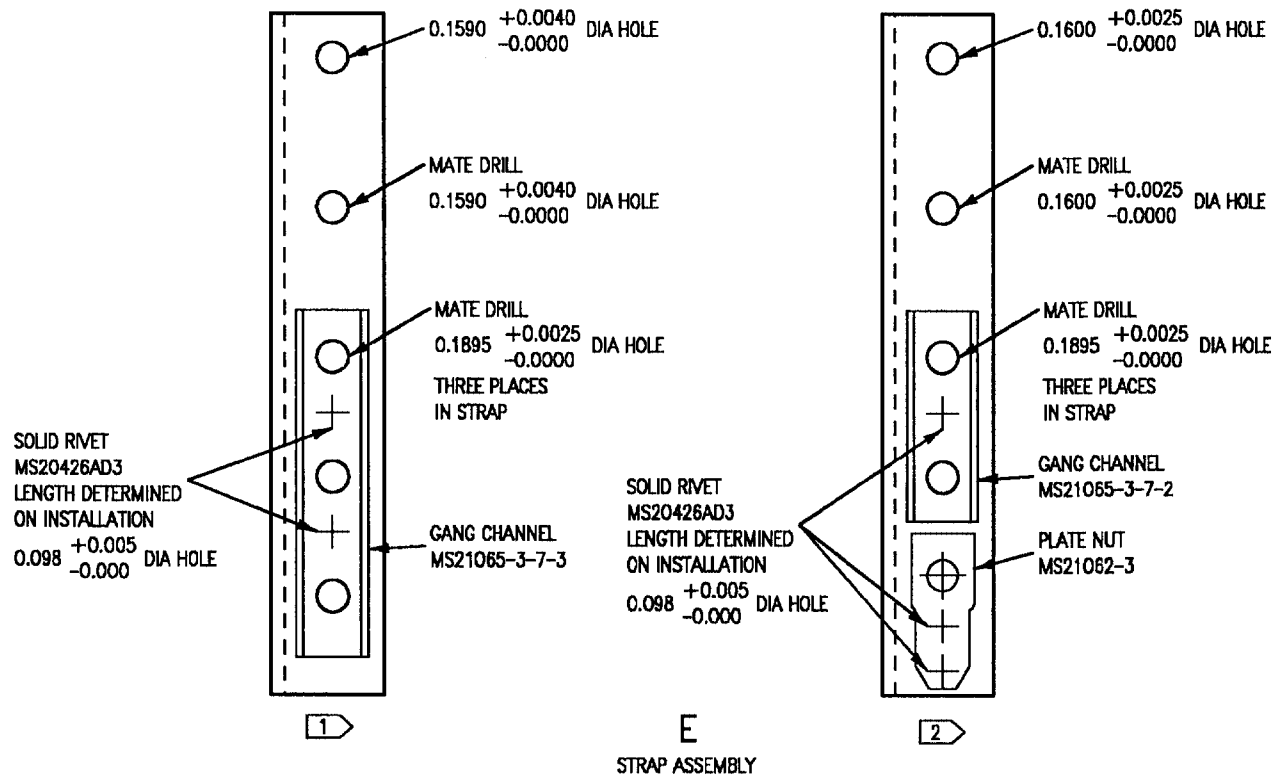
 $\boxed{1}$ 0.125 X 0.75 X 4.60 $\boxed{2}$ 0.063 X 0.75 X 4.60

Figure 3. Fairing 74A330835 Repair (Sheet 2)

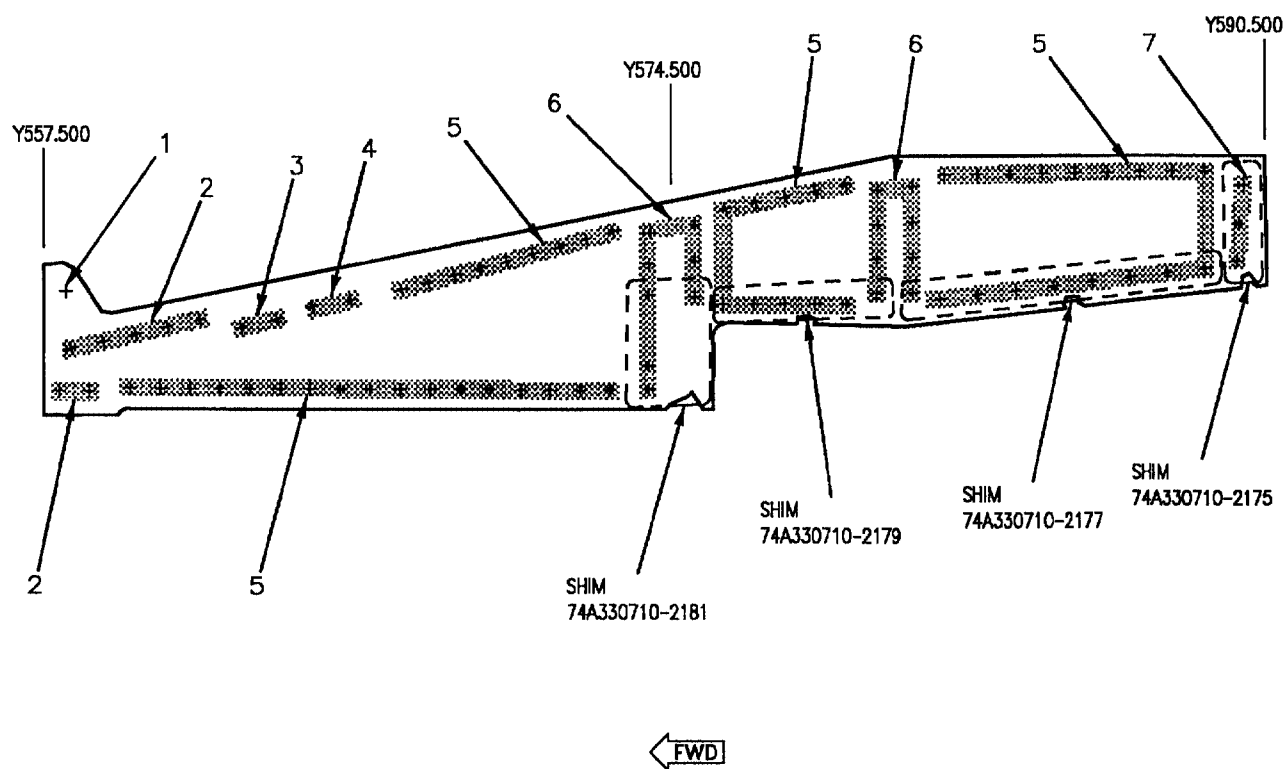


Figure 4. Skin 74A330700-2007, -2008, -2019, -2020 Fastener Replacement (Sheet 1)

00300401














Idx No.	Eft		Nomenclature	Part Number
1			Blind Fastener	PLT1058-8-6
2			Blind Fastener	PLT1058-6-4
3			Pin Nut Assembly 	HLT311-8-6 H51120A4
4			Pin Nut Assembly 	HLT311-8-7 H51120A4
5			Blind Fastener	PLT1058-6-3
6			Blind Fastener	PLT1058-6-6
7			Blind Fastener	PLT1058-6-5
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.2600 +0.0025 -0.0000.</p> <p> Hole diameter is 0.1990 +0.0025 -0.0000.</p> <p> Hole diameter is 0.2460 +0.0025 -0.0000.</p> <p> Torque 60 to 80 inch pounds.</p>				

Figure 4. Skin 74A330700-2007, -2008, -2019, -2020 Fastener Replacement (Sheet 2)

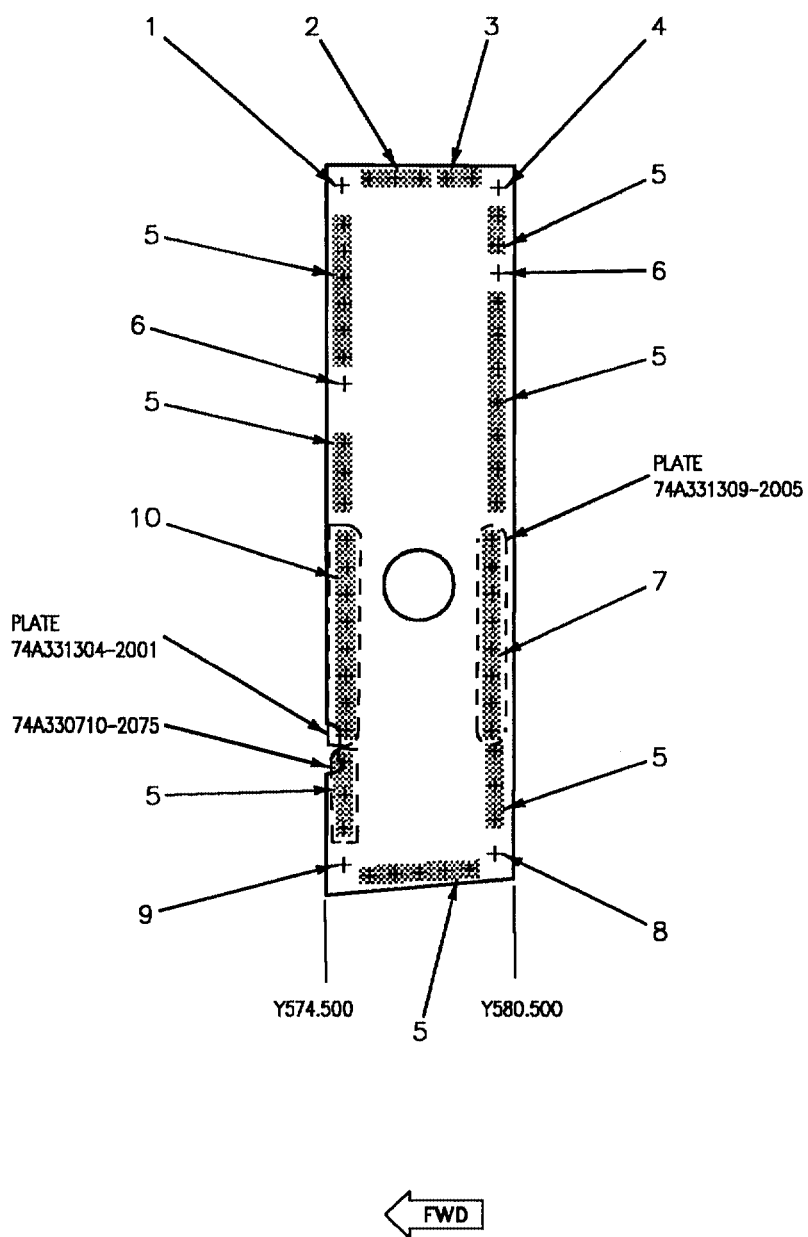


Figure 5. Skin 74A330740-2001, -2002, -2009, -2010 Fastener Replacement (Sheet 1)

00300501
















Idx No.	Eft		Nomenclature	Part Number
1			Pin Collar	HLT311-6-6 HL570-12MC
2			Rivet, Solid	BRFZ6E4
3			Rivet, Solid	BRFZ6E-3
4			Blind Fastener	PLT1060-6-5
5			Rivet, Solid	BRFZ6E() 
6			Blind Rivet	CR3212-6-5
7L L R R		 	Pin Collar Pin Collar	HLT311-6-7 HL570-12MC HL11V6-7 HL570-12MC
8			Pin Collar	HLT311-6-8 HL570-12MC
9			Pin Collar	HLT311-6-7 HL570-12MC
10			Pin Collar	HL11V6-7 HL570-12MC
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1860 + 0.0025 -0.0000.</p> <p> Hole diameter is 0.1990 + 0.0025 -0.0000.</p> <p> Length determined on installation.</p>				

Figure 5. Skin 74A330740-2001, -2002, -2009, -2010 Fastener Replacement (Sheet 2)

ORGANIZATIONAL MAINTENANCE
STRUCTURE REPAIR
AFT FUSELAGE INSULATION BLANKETS

Reference Material

Aircraft Corrosion Control A1-F18AC-SRM-500
 Priming Procedures WP011 00

Alphabetical Index

Subject	Page No.
Damage Evaluation	1
Negligible Damage	1
Repairable Damage	1
Repairs	1
Replacement	1
74A835789 Insulation Blanket	1

Record of Applicable Technical Directives

None

1. **DAMAGE EVALUATION.** See figure 1.

Support Equipment Required

None

2. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. The types of material used are shown on figure 1. Damage not listed or exceeding the following limits requires depot engineering disposition.

Materials Required

3. **NEGLECTIBLE DAMAGE.** Negligible damage requires a depot engineering disposition.

4. **REPAIRABLE DAMAGE.** Repairable damage requires a depot engineering disposition.

5. **REPAIRS.**

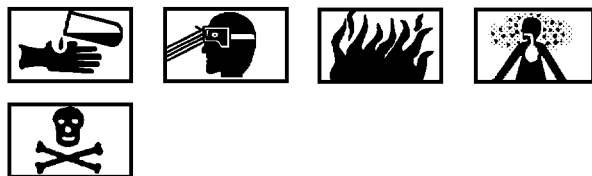
6. Repairs require a depot engineering disposition.

7. **REPLACEMENT.**

8. **74A835789 INSULATION BLANKET.** See figure 1.

Nomenclature	Specification or Part Number
Adhesive	RTV-732, Black
Brush, Varnish	H-B-695, Type 1, Grade A, Size 1
Cheesecloth	CCC-C-440, Type 1, Class 1
Methyl Isobutyl Ketone	D1153
Primer, Adhesive	1200 RTV Prime Coat-Clear
Scraper, Plastic	-

a. Remove blanket and any residual adhesive and/or remnants of blanket from structure using plastic scraper.

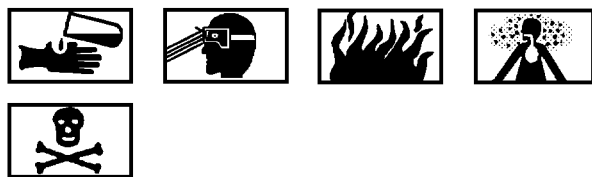


Methyl Isobutyl Ketone

3

b. Wipe exposed structure where blanket was removed with clean cheesecloth moistened with methyl isobutyl ketone.

c. Apply priming procedures as required to structure (A1-F18AC-SRM-500, WP011 00).



Adhesive Primer

4

d. Apply a light coat of adhesive primer to structure using clean cheesecloth.

e. Allow adhesive primer to air dry a minimum of 45 minutes before application of adhesive.



Adhesive

5

NOTE

It is not necessary to apply adhesive to both surfaces being bonded.

f. Brush apply a thin coat of RTV-732 adhesive to one of the bonding surfaces.

NOTE

Electrical wiring and clamps shall be left exposed when cementing insulation blanket to structure.

g. Install blankets to fit snug against structure.

h. Work out trapped air between blanket and structure.

i. Allow air dry for 24 hours.

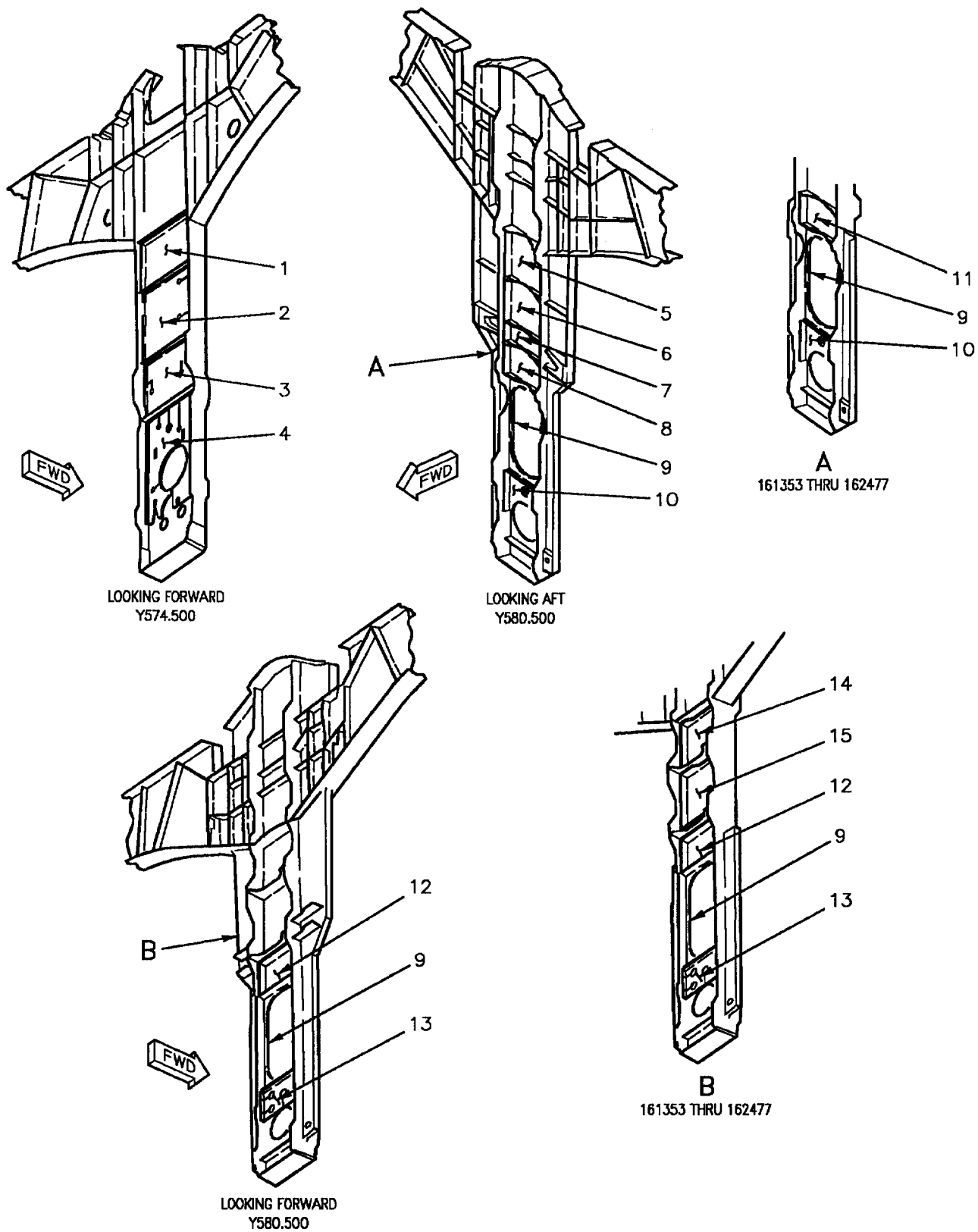


Figure 1. Material Index (Sheet 1)

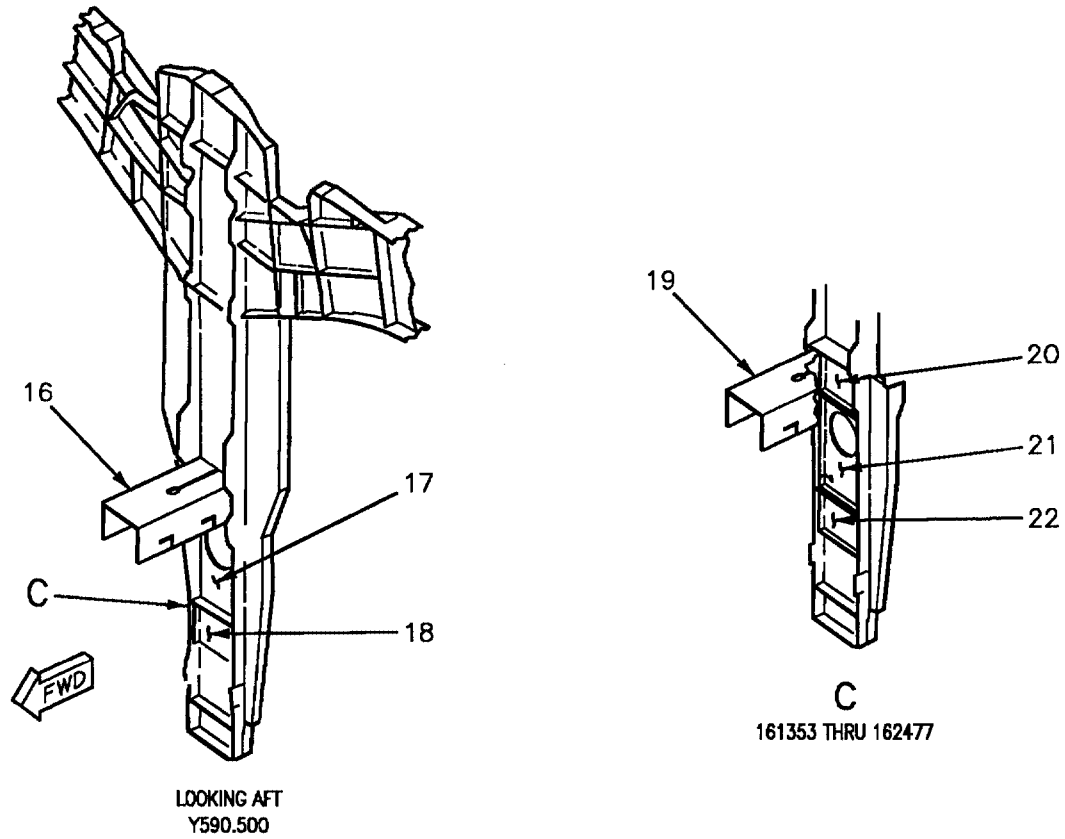


Figure 1. Material Index (Sheet 2)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1	<div>1</div> <div>2</div>	Blanket, Insulation 74A835789-2115 74A835789-2151	0.125 Sheet	<div>9</div> <div>10</div>
2	<div>1</div> <div>3</div> <div>4</div> <div>5</div>	Blanket, Insulation 74A835789-2113 74A835789-2149 74A835789-2179 74A835789-2201	0.125 Sheet	<div>9</div> <div>10</div> <div>10</div> <div>10</div>
3	<div>1</div> <div>3</div> <div>6</div>	Blanket, Insulation 74A835789-2111 74A835789-2147 74A835789-2177	0.125 Sheet	<div>9</div> <div>10</div> <div>10</div>
4	<div>1</div> <div>3</div> <div>6</div>	Blanket, Insulation 74A835789-2109 74A835789-2145 74A835789-2175	0.125 Sheet	<div>9</div> <div>10</div> <div>10</div>
5	<div>7</div>	Blanket, Insulation 74A8357899-2191	0.125 Sheet	<div>9</div>
6	<div>7</div>	Blanket, Insulation 74A835789-2189	0.125 Sheet	<div>9</div>
7	<div>7</div>	Blanket, Insulation 74A835789-2187	0.125 Sheet	<div>9</div>
8	<div>7</div>	Blanket, Insulation 74A835789-2185	0.125 Sheet	<div>9</div>
9	<div>1</div> <div>2</div>	Blanket, Insulation 74A835789-2119 74A835789-2159	0.125 Sheet	<div>9</div> <div>10</div>
10	<div>1</div> <div>2</div>	Blanket, Insulation 74A835789-2137 74A835789-2153	0.125 Sheet	<div>9</div> <div>10</div>
11	<div>1</div> <div>8</div>	Blanket, Insulation 74A835789-2127 74A835789-2163	0.125 Sheet	<div>9</div> <div>10</div>
12	<div>1</div> <div>8</div> <div>7</div>	Blanket, Insulation 74A835789-2121 74A835789-2155 74A835789-2199	0.125 Sheet	<div>9</div> <div>10</div> <div>9</div>
13	<div>1</div> <div>2</div>	Blanket, Insulation 74A835789-2117 74A835789-2173	0.125 Sheet	<div>9</div> <div>10</div>

Figure 1. Material Index (Sheet 3)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
14	<div>1</div> <div>8</div>	Blanket, Insulation 74A835789-2125 74A835789-2161	0.125 Sheet	<div>9</div> <div>10</div>
15	<div>1</div> <div>8</div>	Blanket, Insulation 74A836789-2123 74A836789-2157	0.125 Sheet	<div>9</div> <div>10</div>
16	<div>7</div>	Blanket, Insulation 74A835789-2193	0.125 Sheet	<div>9</div>
17	<div>7</div>	Blanket, Insulation 74A835789-2195	0.125 Sheet	<div>9</div>
18	<div>7</div>	Blanket, Insulation 74A835789-2197	0.125 Sheet	<div>9</div>
19	<div>1</div> <div>8</div>	Blanket, Insulation 74A835789-2135 74A835789-2171	0.125 Sheet	<div>9</div> <div>10</div>
20	<div>1</div> <div>8</div>	Blanket, Insulation 74A835789-2129 74A835789-2165	0.125 Sheet	<div>9</div> <div>10</div>
21	<div>1</div> <div>8</div>	Blanket, Insulation 74A835789-2131 74A835789-2167	0.125 Sheet	<div>9</div> <div>10</div>
22	<div>1</div> <div>8</div>	Blanket, Insulation 74A835789-2133 74A835789-2169	0.125 Sheet	<div>9</div> <div>10</div>
<p style="text-align: center;">LEGEND</p> <p><div>1</div> 161353, 161354. <div>2</div> 161355 AND UP. <div>3</div> 161355 THRU 161707. <div>4</div> 161708 THRU 162832. <div>5</div> 162833 AND UP. <div>6</div> 161708 AND UP. <div>7</div> 162826 AND UP. <div>8</div> 161355 THRU 162477. <div>9</div> MIN-K, commercial grade, type SS, quilted, density 16 lbs/cf, flexible. <div>10</div> MIN-K, commercial grade, type SS, quilted, flexible; SRGA-0409U silicone impregnated aluminized fiberglass cloth to both sides of blanket. 11. Insulation is bonded to structure with RTV-732 black adhesive.</p>				

Figure 1. Material Index (Sheet 4)

ORGANIZATIONAL MAINTENANCE**STRUCTURE REPAIR****ARRESTING HOOK SUPPORT AND FAIRING**

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Arc Spraying	WP009 01
Form In Place Sealing	WP010 00
Aft Fuselage Finish System and Markings	WP036 00
Nondestructive Inspection	A1-F18AC-SRM-300
Pulse Echo, Longitudinal Wave Contact, With Delay Line, For Composite Laminate Material	
Bonded to Honeycomb Core	WP008 04
Pulse Echo, Longitudinal Wave Contact, Without Delay Line For Composite Laminate Material	WP008 02
Plane Captain Manual	A1-F18AC-PCM-000
Structure Illustrated Parts Breakdown - Aft Fuselage	A1-F18AC-SRM-440
Fairing, Arresting Hook - Y580.5 to Y642.2, Assy of and Fairings - ARG, Installation of,	
Y647.92 to Y664.82	FIG 006 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Locating Blind Holes and Trim Lines	WP004 03
Gang Channel and Plate Nut Identification and Repair	WP004 05
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repairs	WP034 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Blending	WP038 00
Fiberglass or Aramid Assembly, Class I Damage Repair	WP039 00
Fiberglass or Aramid Assembly, Class II Damage Repair	WP040 00
Fiberglass or Aramid Assembly, Class III Damage Repair	WP041 00
Fiberglass or Aramid Assembly, Class IV Damage Repair	WP042 00
Fiberglass or Aramid Assembly, Class V Damage Repair	WP043 00
Fiberglass or Aramid Assembly, Class VI Damage Repair	WP044 00
Fiberglass or Aramid Assembly, Class VII Damage Repair	WP045 00
Fiberglass or Aramid Assembly, Class VIII Damage Repair	WP046 00
Fiberglass or Aramid Assembly, Class IX Damage Repair	WP047 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
Structural Hardware	NAVAIR 01-1A-8

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Partial Or Full Penetration of One Skin With Honeycomb Core Damage Or Full Penetration of Both Skins; Not Over 2 Inches In Diameter, Class VIII Damage	8
Skin Damage Below Second Ply, Not Open to Edge of Part, Class VI Damage	8
Skin Damage, Full Penetration, Class VII Damage	8
Skin Damage Without Penetration, Class III Damage	7
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Skin Surface Damage, Class I Damage	7
Unbonds or Voids Between Channel, Rib or Spar and Honeycomb, Class V Damage	8
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Door 164	5
Door 165	5
Skin Assembly	5

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remark
F/A-18 IAFC 079	2 Jun 87	Rework of Arresting Hook Fairing (ECP MDA- F18-00229)	1 Jul 87	-

1. **DAMAGE EVALUATION - METAL.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figures 1 and 2. Repair zones are shown on figures 3 and 4. Allowable damage limits within repair zones are listed in tables 1, 2, 3, and 4. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in tables 1 and 3. The figure and index numbers in tables 1 and 3 coincide with the figure and index numbers in the support material index and fairing material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in tables 2 and 4. The figure and index numbers in tables 2 and 4 coincide with the figure and index numbers in the support material index and fairing material index.

NOTE

The limits in tables 2 and 4 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of clean up hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS - METAL.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.

8. Scratches, Nicks, Gouges, or Corrosion.

Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 or 4 are exceeded, repair aluminum sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zone A1, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Stop drill ends of crack.

(2) In repair zone A1, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A1, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A1, repair cracks to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zone A1, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A1, repair holes across structure or land area in aluminum sheet (A1-F18AC-SRM-250, WP036 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A1, repair holes to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zone A1, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. **Dents.**

a. In repair zone A1, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A1, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A1, repair dents to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. **REPLACEMENT.**

14. **SKIN ASSEMBLY.** See figure 5 for attaching hardware. For form in place sealing (A1-F18AC-SRM-500, WP010 00).

15. **DOOR 164.** See figure 6 for hinge and latch attach rivets. Door 164 is interchangeable. For fasteners attaching hinge to structure (A1-F18AC-SRM-440, FIG 006 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00). Refinish if required (A1-F18AC-SRM-500, WP036 00).

16. **DOOR 165.** See figure 7 for hinge and latch attach rivets. Door 165 is interchangeable. For fasteners attaching hinge to structure (A1-F18AC-SRM-440, FIG 006 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00). Refinish if required (A1-F18AC-SRM-500, WP036 00).

17. **DOOR 135.** See figure 8 for attaching hardware. Door 135 is interchangeable. For fasteners attaching hinge to structure (A1-F18AC-SRM-440, FIG 006 00). For flare lock fasteners (A1-F18AC-SRM-440, FIG 006 00). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8). For form in place sealing (A1-F18AC-SRM-500,

WP010 00). Refinish if required (A1-F18AC-SRM-500, WP036 00).

18. **FAIRING 74A332518 REMOVAL AND INSTALLATION.** See figure 9. Fairing is replaceable and requires trimming and drilling.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Torque Wrench, 0 to 50 Inch-Pounds	-

Materials Required

Nomenclature	Specification or Part Number
Blind Fastener	NAS1672-3-7
Blind Fastener	PLT1058-5-2
Blind Fastener	PLT1058-5-3
Blind Fastener	PLT1058-5-4
Blind Fastener	PLT1058-5-5
Blind Fastener	PLT1058-5-6
Blind Fastener	PLT170-5-2
Blind Fastener	PLT170-5-3
Blind Fastener	PLT170-5-5
Collar	HL570-5MC
Collar	HL570-6MC
Pin	HLT311-5-4
Pin	HLT311-6-4
Sealing Compound	MIL-S-8802, Type 2, Class A-1/2
Washer	NAS1169D8E

19. **Removal.**

- a. Install arresting hook aircraft ground safety pin (A1-F18AC-PCM-000).
- b. Support fairing.



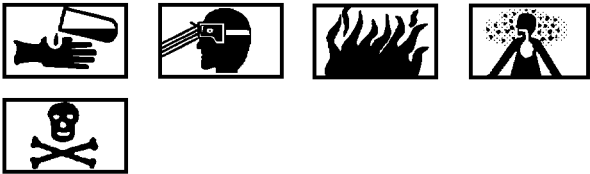
Be careful not to enlarge holes when drilling out fasteners. Damage to structure could occur.

- c. Drill out all fasteners securing fairing to support.

- d. Remove fairing.

20. **Installation.**

- a. Support fairing.
- b. Position fairing to support. Maintain gap of 0.040 between fairing and support.
- c. Trim and drill to fit (A1-F18AC-SRM-200, WP004 03).
- d. Hold in position with temporary fasteners.
- e. Countersink holes.
- f. Locate and drill holes for hinge halves of doors 164 and 165 to fairing (A1-F18AC-SRM-200, WP004 03). Maintain gap of 0.060 minimum and 0.140 maximum on three sides of door not containing the hinge and fairing.
- g. Disassemble all parts and wipe clean.
- h. Clean area of foreign objects.
- i. Position fairing to support.



Sealing Compound

6

- j. Fay surface seal and install blind fasteners and pins set wet with sealing compound, for sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

- k. Fay surface seal hinge halves of doors 164 and 165 to fairing, preparation and application (A1-F18AC-SRM-200, WP011 00).

- l. Install doors 164 and 165 to fairing, see Door 164 and Door 165, this WP.

m. Torque fasteners in hinge halves 20 to 25 inch-pounds.

n. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

21. **DAMAGE EVALUATION - FIBERGLASS.** See figure 1 and 2.

22. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

23. **NEGLIGIBLE DAMAGE.** See figure 10. Negligible damage may be allowed to exist as is. Type and limits are listed:

a. Cuts, scratches, pits, erosion or abrasions that extend into or through any protective coating but do not penetrate the outer ply of the underlying laminate skin.

b. A 0.25 inch by 1.0 inch or less coating of arc spray may be allowed to be missing on 74A332518.

24. **REPAIRABLE DAMAGE.** See figure 11. Repairable damage is damage that can be permanently repaired with no adverse effect on structural integrity, flight characteristic, or safety of the aircraft. Any repairs not listed require a depot engineering disposition.

25. **Skin Surface Damage, Class I Damage.** See figure 11, section A. This class of damage does not require immediate repair but shall be repaired as soon as practical. Damage shall be monitored to make sure limits are not exceeded. This damage is damage which does not exceed the limits listed:

a. Dents, scuffs, pits, scratches, erosion, or abrasions.

- (1) Do not penetrate through the first ply.

- (2) Are a maximum of 20% of part surface area.

26. **Fiber Damage Around Fastener Holes And Edge Damage, Class II Damage.** See figure 11, section B. This damage is damage which does not exceed the limits listed:

a. Broken or missing fibers at fastener hole; not more than:

- (1) 0.15 inches in depth.
- (2) 0.25 inches in width.
- (3) 1.00 inch in length.

b. Chipped, broken, or crushed edge not extending:

- (1) 0.12 inches into edge.
- (2) 4.00 inches along edge.

27. **Skin Damage Without Penetration, Class III Damage.** See figure 11, section C. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02 and WP008 04). This damage is damage which does not exceed the limits listed:

a. Cuts, scratches, scuffs, nicks, or gouges which:

- (1) Do not penetrate through two plies.
- (2) Can be enclosed in a 4.0 inch diameter circle.
- (3) Distance between damages is at least four times diameter of largest damage.

b. Delaminations which:

- (1) Are not open to edge.
- (2) Are between first and second plies.
- (3) Can be enclosed in a 4.0 inch diameter circle.
- (4) Distance between damage is at least four times diameter of largest damage.

28. **Skin Delaminations Open to Edge of Part or at fastener Holes. Class IV Damage.** See figure 11, section D. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02). This damage is damage which does not exceed the limits listed:

a. Delaminations open to edge at any depth which:

(1) Do not extend more than 1.0 inch from edge.

(2) Are no longer than 4.0 inches.

(3) Distance between damages is at least four times length of longest damage.

b. Delamination at fastener hole at any depth which can be enclosed in a 0.75 inch diameter circle.

29. **Unbonds or Voids Between Channel, Rib or Spar and Honeycomb, Class V Damage.** See figure 11, section E. This damage is damage which is unlimited in size and number.

30. **Skin Damage Below Second Ply, Not Open to Edge of Part, Class VI Damage.** See figure 11, section F. Determine size and location of delaminations or unbonds (A1-F18AC-SRM-300, WP008 02 and WP008 04). This damage is damage which does not exceed the limits listed:

a. Delaminations or unbonds which:

(1) Can be enclosed in a 4.0 inch diameter circle.

(2) Distance between damages is four times diameter of largest damage.

b. Cuts, gouges, or dents which:

(1) Can be enclosed in a 4.0 inch diameter circle.

(2) Distance between damages is four times diameter of largest damage.

31. **Skin Damage, Full Penetration, Class VII Damage.** See figure 11, section G. This damage is damage which does not exceed the limits listed:

a. Can be enclosed in a 4.0 inch diameter circle.

b. A depot engineering disposition is required if repairs to this class damage overlap existing fasteners.

32. **Partial or Full Penetration of One Skin With Honeycomb Core Damage or Full Penetration of Both Skins; Not Over 2.0 Inches In Diameter, Class VIII Damage.** See figure 11, section H. Determine size and location of dents, delaminations and core damage. This damage is damage which does not exceed the limits listed:

a. Can be enclosed in a 2.0 inch diameter circle.

b. Distance between damages is four times diameter of largest damage.

33. **Partial or Full Penetration of One Skin With Honeycomb Core Damage or Full Penetration of Both Skins; Not Over 4.0 Inches In Diameter, Class IX Damage.** See figure 11, section J. Determine size and location of dents, delaminations and core damage. This damage is damage which does not exceed the limits listed:

a. Can be enclosed in a 4.0 inch diameter circle.

b. Distance between damages is four times diameter of largest damage.

34. REPAIRS - FIBERGLASS.

Class I, II, III, IV, V, VI, VII, VIII, and IX damages are organizational maintenance. Repair damages per the procedures referenced. Refinish repaired area (A1-F18AC-SRM-500, WP036 00). Arc spray over refinished areas on the 74A332518 channel, arc spraying method is depot maintenance. Arc spray (A1-F18AC-SRM-500, WP009 01).

a. Repair Class I damage (A1-F18AC-SRM-250, WP039 00).

b. Repair Class II damage (A1-F18AC-SRM-250, WP040 00).

c. Repair Class III damage (A1-F18AC-SRM-250, WP041 00).

d. Repair Class IV damage (A1-F18AC-SRM-250, WP042 00).

e. Repair Class V damage (A1-F18AC-SRM-250, WP043 00).

f. Repair Class VI damage (A1-F18AC-SRM-250, WP044 00).

g. Repair Class VII damage (A1-F18AC-SRM-250, WP045 00).

h. Repair Class VIII damage (A1-F18AC-SRM-250, WP046 00).

i. Repair Class IX damage (A1-F18AC-SRM-250, WP047 00).

Table 1. Negligible Damage Limits











Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Web	0.040	0.002	0.002	100%	0.020	NA
	Zone A1	0.030	0.002	0.002	100%	0.015	NA
	Zone A1	0.063	0.002	0.002	100%		NA
Fig 1 (2)	Web	0.100	0.002	0.002	100%	0.050	10%
	Zone A1	0.170	0.002	0.002	100%	0.085	20%
Fig 1 (9)	Door 164 Zone A1	0.063	0.002	0.002	100%		
Fig 1 (10)	Support Zone A1	0.040	0.002	0.002	100%		NA
Fig 1 (13)	Bracket Zone A1	0.050	0.002	0.002	100%		NA
Fig 1 (15)	Door 165 Zone A1	0.063	0.002	0.002	100%		
Fig 1 (16)	Support Zone A1	0.040	0.002	0.002	100%		NA

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/Re- pair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (10)	Support Zone A1	0.040	0.008	0.008	100%	0.008	100%
Fig 1 (13)	Bracket Zone A1	0.050	0.010	0.010	100%	0.010	100%
Fig 1 (15)	Door 165 Zone A1	0.063	0.013	0.013	100%	0.013	100%
Fig 1 (16)	Support Zone A1	0.040	0.008	0.008	100%	0.008	100%
Fig 1(19)  	Fitting Zone D3	0.820	0.020	0.020	25%	0.020	25%
	Zone C3	Tapered 0.644 To 0.118	0.010	0.010	25%	0.010	25%
	Zone B3	0.180	0.036	0.036	25%	0.036	25%
	Zone B3	0.120	0.024	0.024	25%	0.024	25%
	Zone B3	0.410	0.082	0.082	25%	0.082	25%
	Zone B3	0.250	0.050	0.050	25%	0.050	25%
	Zone B3	0.060	0.012	0.012	25%	0.012	25%
	Zone B3	Tapered 0.250 To 0.563	0.050	0.050	25%	0.050	25%
	Zone C3	Tapered 0.563 To 0.720	0.028	0.028	25%	0.028	25%
	Zone C3	0.180	0.010	0.010	25%	0.010	25%
	Zone B3	0.140	0.028	0.028	25%	0.028	25%



NOTES See detail E, figure 3. See detail D, figure 3.

Table 4. Fairing Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 2 (2)	Support Zone A1	0.070	0.014	0.014	50%	0.014	50%
Fig 2 (3)	Support Zone A1	0.060	0.012	0.012	100%	0.012	100%
Fig 2 (4)	Door 135 Zone A1	0.080	0.016	0.016	100%	0.016	100%
Fig 2 (14)	Skin Zone A1	Tapered 0.147 To 0.200	0.029	0.029	25%	0.029	25%
	Zone A1	0.050	0.010	0.010	25%	0.010	25%
	Zone A1	0.200	0.040	0.040	25%	0.040	25%
	Zone A1	0.080	0.016	0.016	25%	0.016	25%
Fig 2 (15)	Skin Zone A1	Tapered 0.147 To 0.200	0.029	0.029	25%	0.029	25%
	Zone A1	0.050	0.010	0.010	25%	0.010	25%
	Zone A1	0.200	0.040	0.040	25%	0.040	25%
	Zone A1	0.080	0.016	0.016	25%	0.016	25%
Fig 2 (16)	Bracket Zone A1	0.050	0.010	0.010	50%	0.010	50%
	Zone A1	0.060	0.012	0.012	50%	0.012	50%
	Zone A1	Tapered 0.060 To 0.150	0.012	0.012	50%	0.012	50%
	Zone A1	0.150	0.016	0.016	50%	0.016	50%

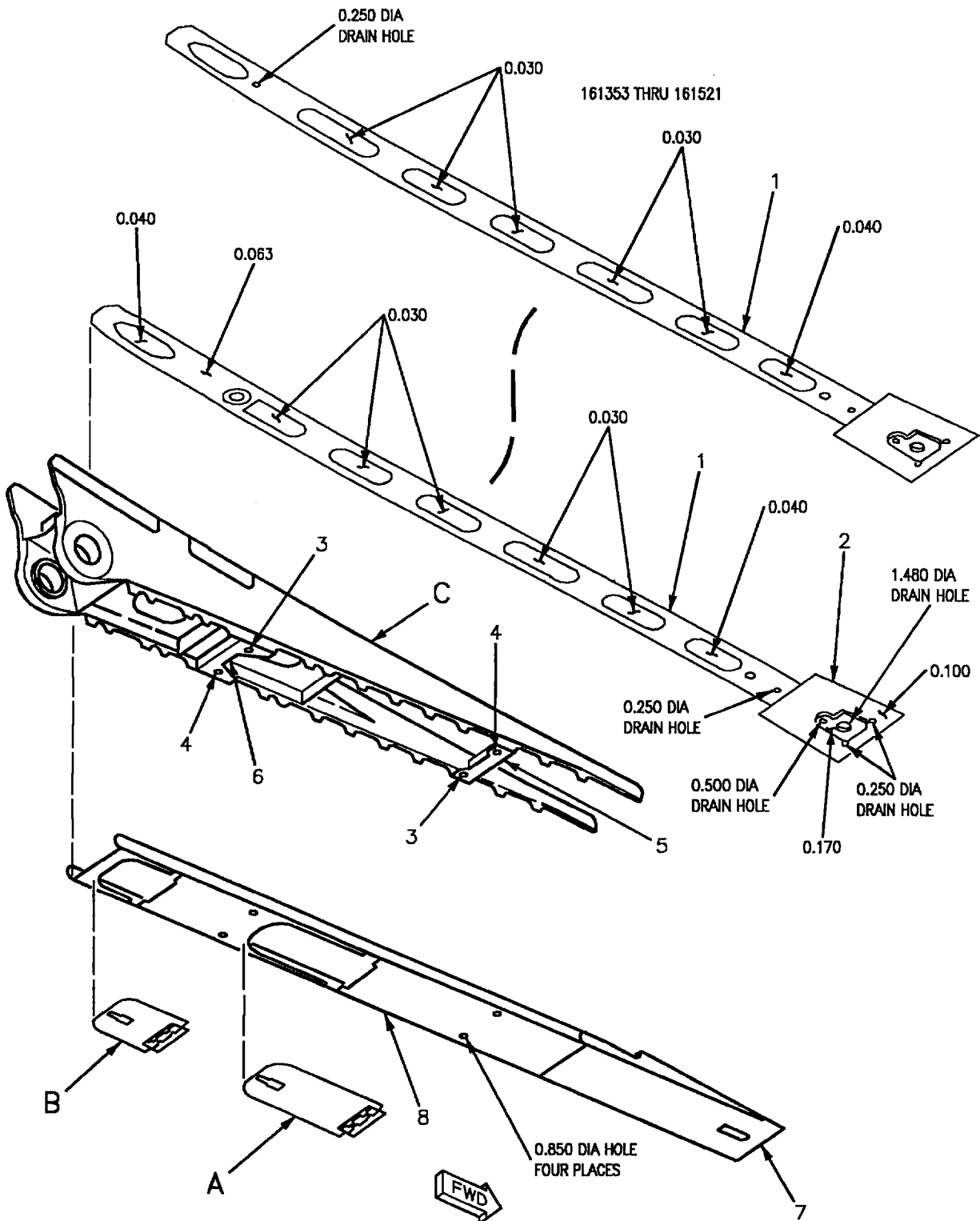


Figure 1. Support Material Index (Sheet 1)

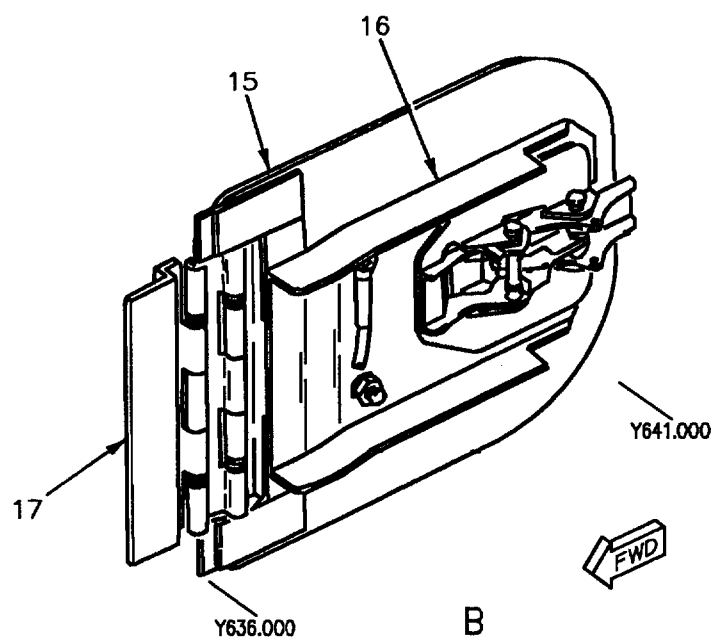
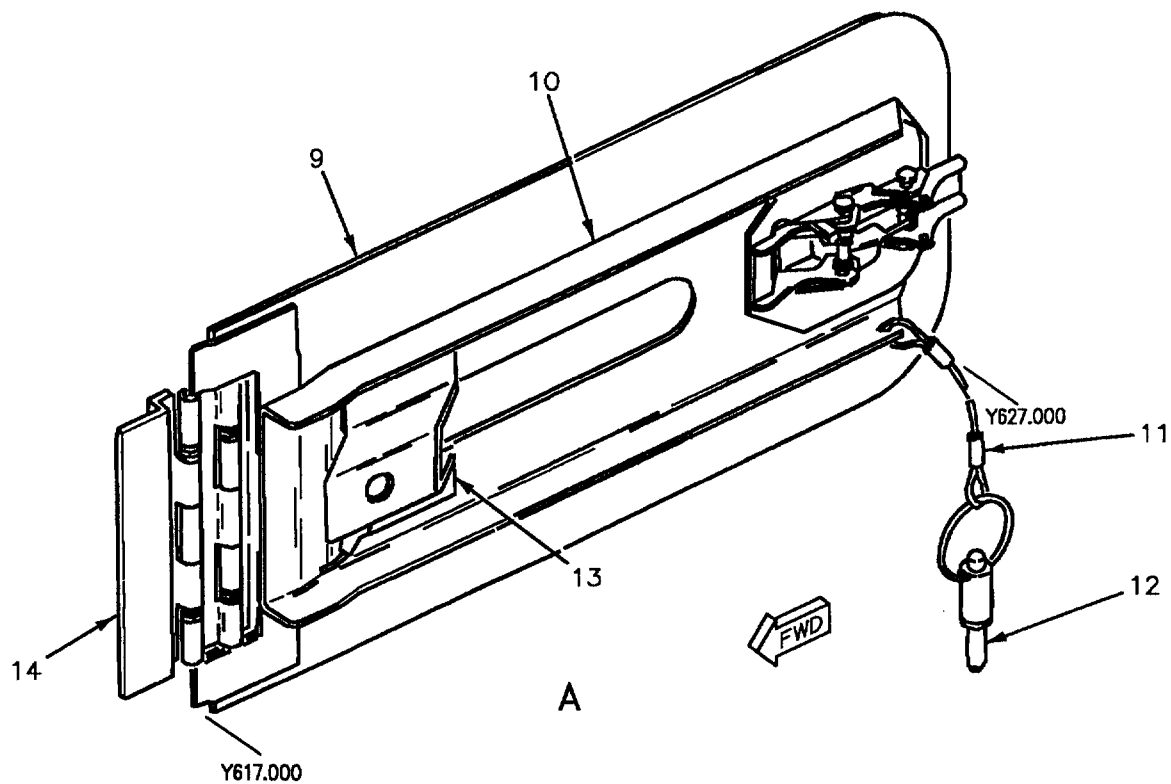


Figure 1. Support Material Index (Sheet 2)

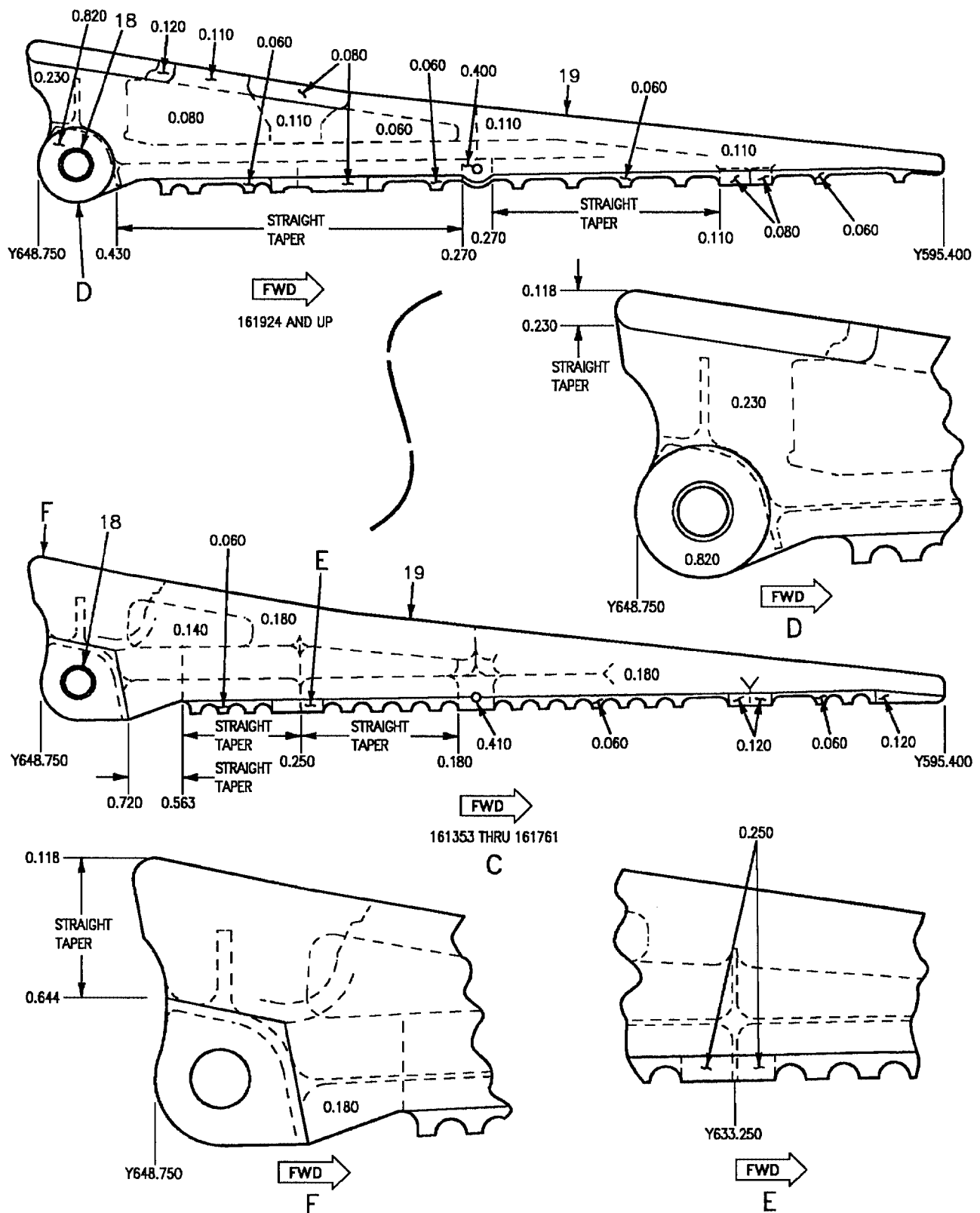


Figure 1. Support Material Index (Sheet 3)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1	<div>3</div> <div>4</div> <div>7</div>	Web 74A332513-2001 74A332513-9011 74A332513-2009	<div>1</div> Sheet	7075-T6 Al Aly
2	<div>5</div> <div>6</div>	Web 74A332513-2005 74A332513-2007	<div>2</div> Sheet	7075-T76 Al Aly
3	<div>13</div>	Receptacle 52171A-5C1-180	<div>14</div> Body	17-4 Cres
4	<div>13</div>	Receptacle 52171A-4C1-180	<div>14</div> Body	17-4 Cres
5	<div>13</div>	Support 74A332525-2001	Machined Bar	7075-T73511 Al Aly
6	<div>13</div>	Support 74A332525-2003	Machined Bar	7075-T73511 Al Aly
7	<div>17</div> <div>18</div>	Channel 74R330014-2003 or -2005 74R330014-2001	0.063 Sheet	6Al-4V Ti Anl
8	<div>19</div> <div>20</div> <div>21</div> <div>22</div> <div>23</div> <div>24</div>	Channel 74A332518-2001 74R330012-2005 74A332518-2057 74R330012-2003 74A332518-2081 74R330012-2001	0.120, Laminate Plies, 0.010	Glass Cloth/Epoxy
9	<div>8</div> <div>11</div>	Door 164 74A332517-2015 74A332517-2021	0.063 Sheet	7075-T6 Alclad
10		Support 74A332517-2007	0.040 Sheet	7075-T62 Alclad
11		Lanyard 9M59-2-75P	<div>12</div>	
12		Pin BLS4RS02S	-	-
13		Bracket 74A332517-2019	0.050 Sheet	7075-T62 Alclad
14		Hinge H6300-K2055	0.040 Sheet	302 Cres

Figure 1. Support Material Index (Sheet 4)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
15	<div>8</div> <div>11</div>	Door 165 74A332519-2001 74A332519-2007	0.063 Sheet	7075-T6 Alclad
16		Support 74A332519-2005	0.040 Sheet	7075-T62 Al Aly
17		Hinge H6300-K2054	0.040 Sheet	302 Cres
18	<div>25</div> <div>26</div>	Bushing ST4M 130-24007 ST4M 130-24014	-	Beryllium Copper
19	<div>9</div> <div>10</div> <div>15</div> <div>16</div>	Fitting 74A332520-2003 74A332520-2009 74A332520-2007 74A332520-2011	Die Forging	6Al-4V Ti Anl
<p style="text-align: center;">LEGEND</p> <div>1</div> 0.063 stock size, machined to dimensions shown. <div>2</div> 0.190 stock size, machined to dimensions shown. <div>3</div> 161353 THRU 161521. <div>4</div> 161522 THRU 161702. <div>5</div> 161353 THRU 161524. <div>6</div> 161525 AND UP. <div>7</div> 161703 AND UP. <div>8</div> 161353 THRU 161761. <div>9</div> 161353 THRU 161741. <div>10</div> 161742 THRU 161761. <div>11</div> 161924 AND UP. <div>12</div> Lanyard assembly to be completed at installation. <div>13</div> 161742 AND UP. <div>14</div> Replacement rivets, attaching receptacles, not shown (A1-F18AC-SRM-200, WP004 05). <div>15</div> 161924 THRU 161983. <div>16</div> 161984 AND UP. <div>17</div> 161353 THRU 161761 AFTER F/A-18 IAFC 079. Either dash number may be on these aircraft. <div>18</div> 161924 THRU 163175 AFTER F/A-18 IAFC 079. <div>19</div> 161353 THRU 161741 BEFORE F/A-18 IAFC 079. <div>20</div> 161353 THRU 161741 AFTER F/A-18 IAFC 079. <div>21</div> 161742 THRU 161761 BEFORE F/A-18 IAFC 079.				

Figure 1. Support Material Index (Sheet 5)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
22		161742 THRU 161761 AFTER F/A-18 IAFC 079.		
23		161924 THRU 163175 BEFORE F/A-18 IAFC 079.		
24		161924 THRU 163175 AFTER F/A-18 IAFC 079.		
25		161353 THRU 163143.		
26		163144 AND UP.		

Figure 1. Support Material Index (Sheet 6)

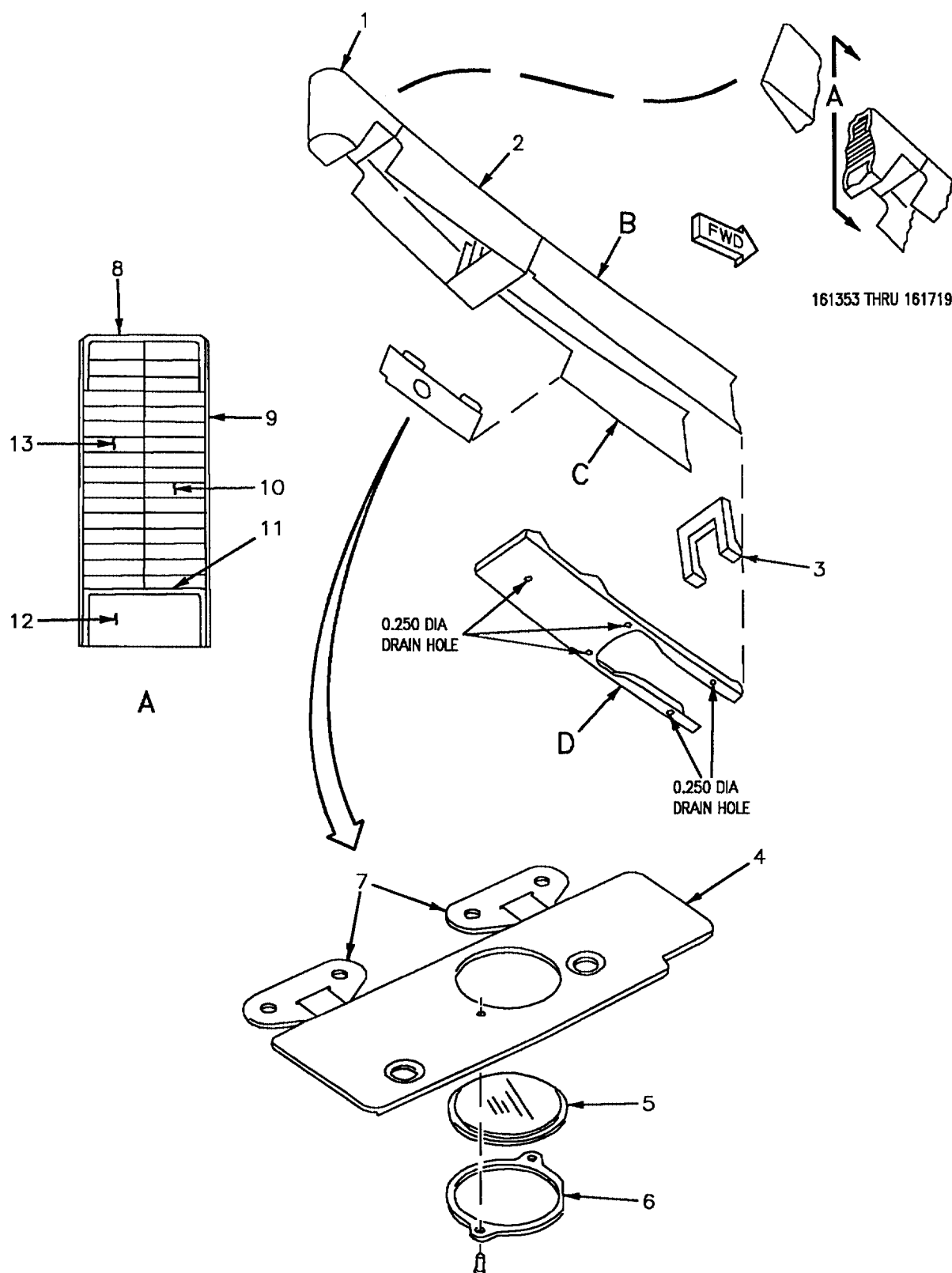


Figure 2. Fairing Material Index (Sheet 1)

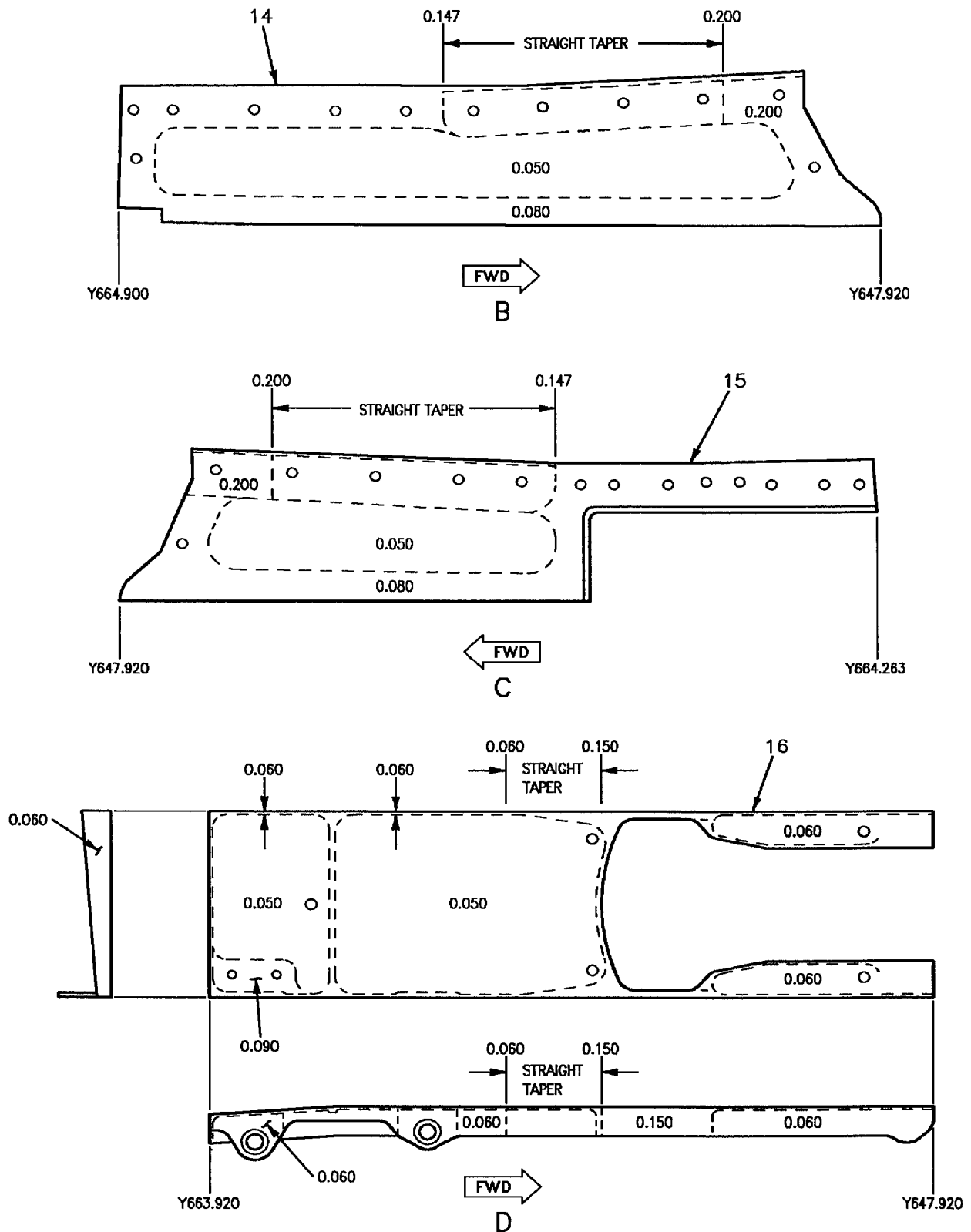


Figure 2. Fairing Material Index (Sheet 2)





















Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Fairing 74A333522-2001	0.032 Sheet	6061-T62 Al Aly
2		Support 74A661140-2019	0.070 Machining	A356-T61 Al Aly
3		Support 74A333514-2001	0.060 Machining	2219-T851 Al Aly
4		Door 135 74A333517-2001	0.080 Sheet	2024-T81 Alclad
5		Window 74A333517-2003	0.080 Sheet	Acrylic Plastic
6		Retainer 74A333517-2005	0.063 Sheet	7075-T6 Alclad
7		Hinge H2340-5	0.025 Sheet	302 Cres
8		Bracket 74A333512-2003	0.055, Laminate Plies, 0.011	Glass Cloth/Epoxy
9		Skin 74A333512-2009	0.0265, Laminate Plies 	Glass Cloth/Epoxy
10	  	Core 74A333512-2022 74A333512-2024 74A333512-2026	  	5056-H39 Al Aly
11		Cap 74A333512-2007	0.044, Laminate Plies, 0.011	Glass Cloth/Epoxy
12		Block 74A333512-2015	0.70 Block	PDL-2801 Foam
13	  	Core 74A333512-2021 74A333512-2023 74A333512-2025	  	5056-H39 Al Aly
14		Skin 74A333516-2003	 Plate	2024-T851 Alclad
15		Skin 74A333516-2005	 Plate	2024-T851 Alclad

Figure 2. Fairing Material Index (Sheet 3)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
16	<div>3</div> <div>4</div>	Bracket 74A333513-2003 74A333513-9001	<div>5</div> Plate	7075-T351 Al Aly 2219-T851 Al Aly
<p style="text-align: center;">LEGEND</p> <div>1</div> 0.250 stock size machined to dimensions shown. <div>2</div> Honeycomb core, 3/16 cell, 0.0010 aluminum foil. <div>3</div> 161358, 161359, 161361 AND UP. <div>4</div> 161353 THRU 161357, AND 161360. <div>5</div> 1.50 stock size machined to dimensions shown. <div>6</div> Honeycomb core, 1/4 cell, 0.0010 aluminum foil. <div>7</div> Honeycomb core, 5/32 cell, 0.0010 aluminum foil. <div>8</div> 161353 THRU 161356. <div>9</div> F/A-18A 161358 THRU 161708, F/A-18B 161357 THRU 161360. <div>10</div> F/A-18A 161709 THRU 161718, F/A-18B 161704 THRU 161719. <div>11</div> 161720 AND UP. <div>12</div> 161353 THRU 161719. <div>13</div> Mold line ply is 0.0045 inches thick, two inner plies are 0.011 inches thick.				

Figure 2. Fairing Material Index (Sheet 4)

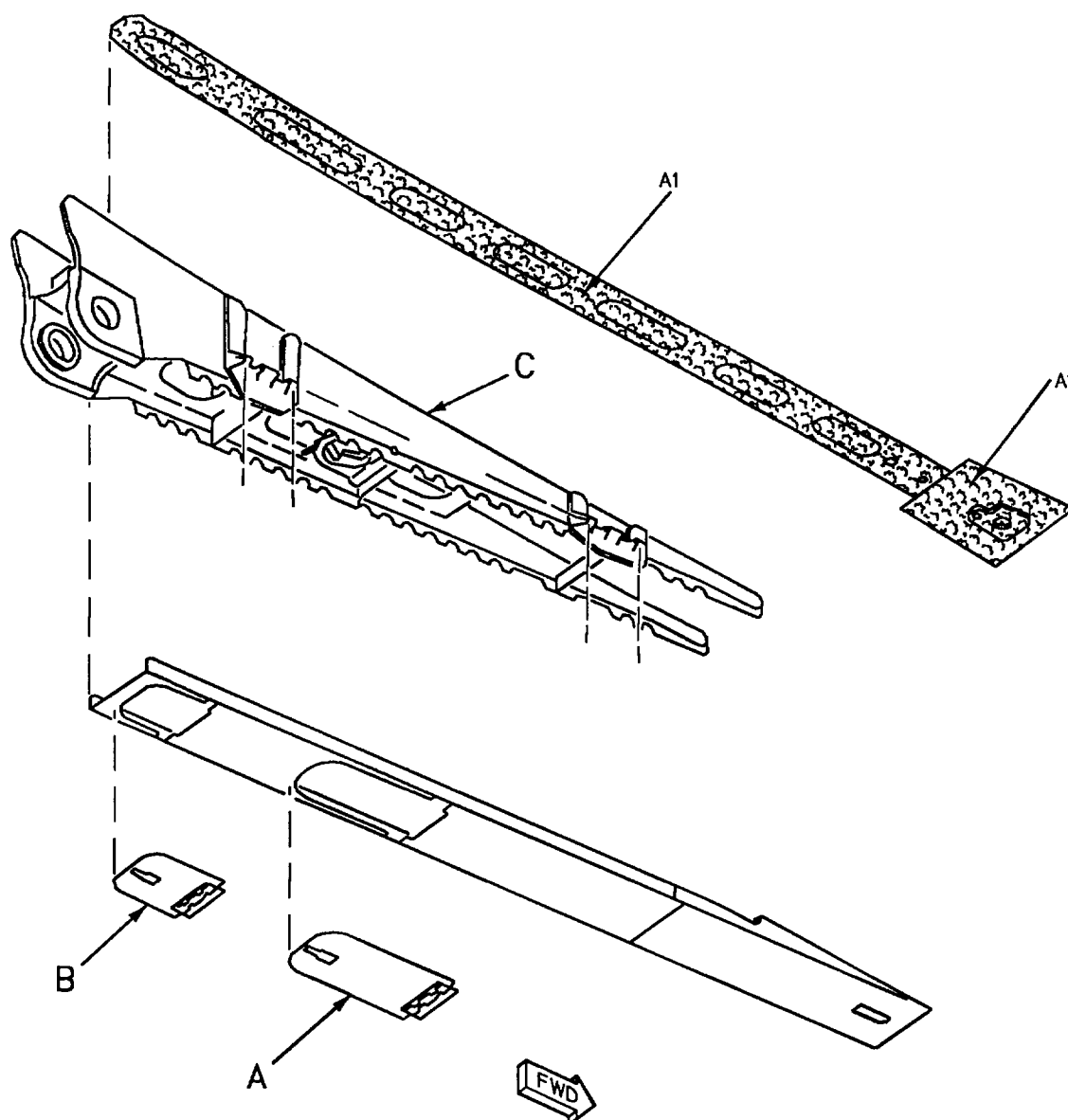


Figure 3. Support Repair Zones (Sheet 1)

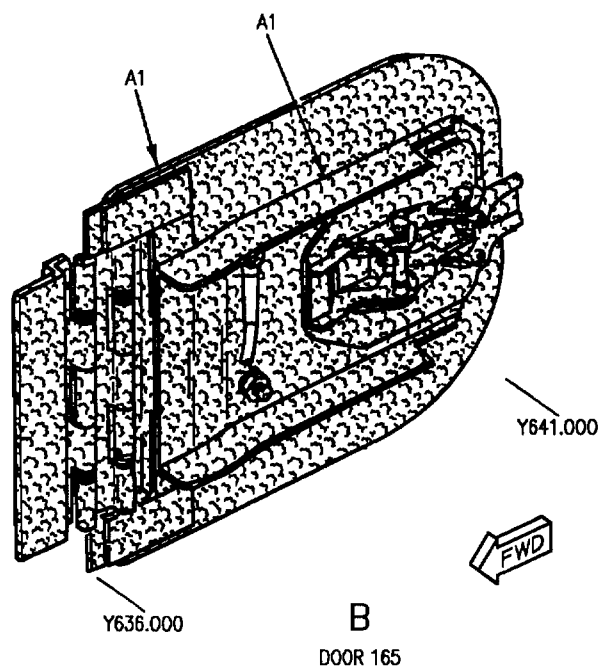
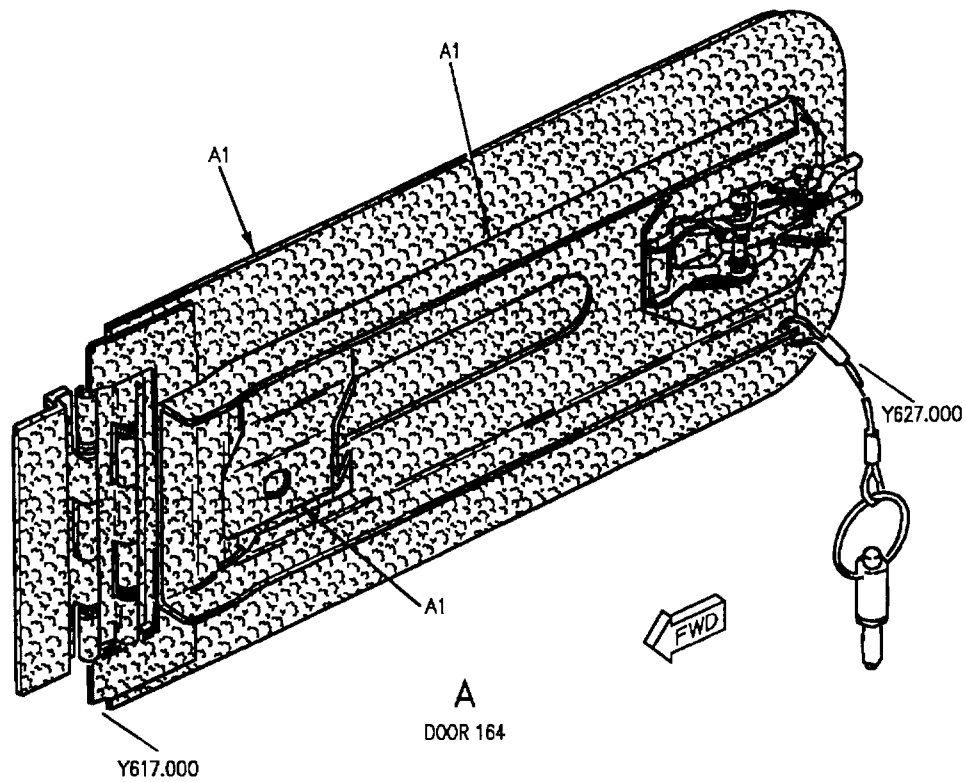


Figure 3. Support Repair Zones (Sheet 2)

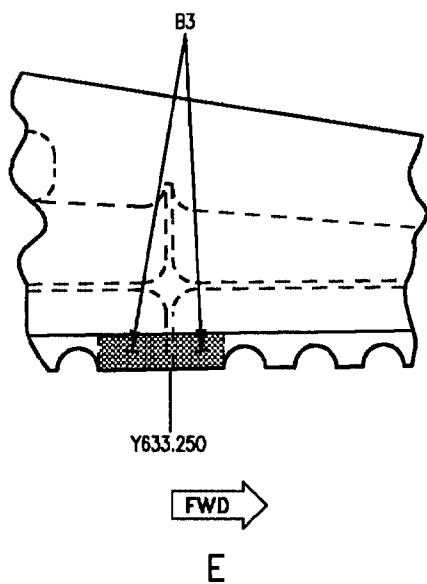
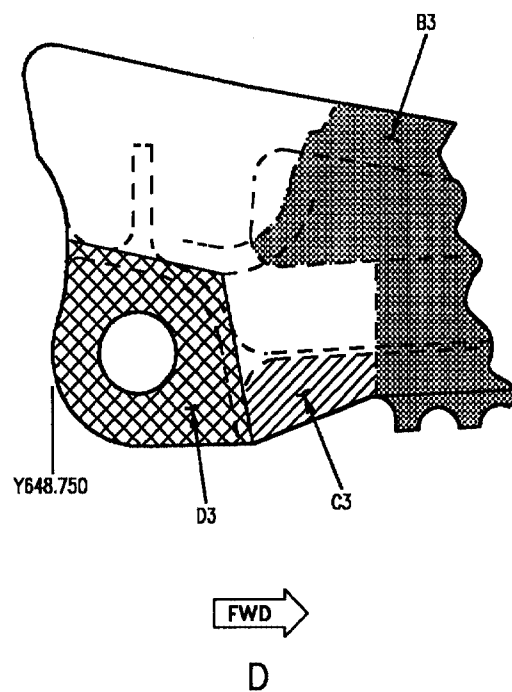
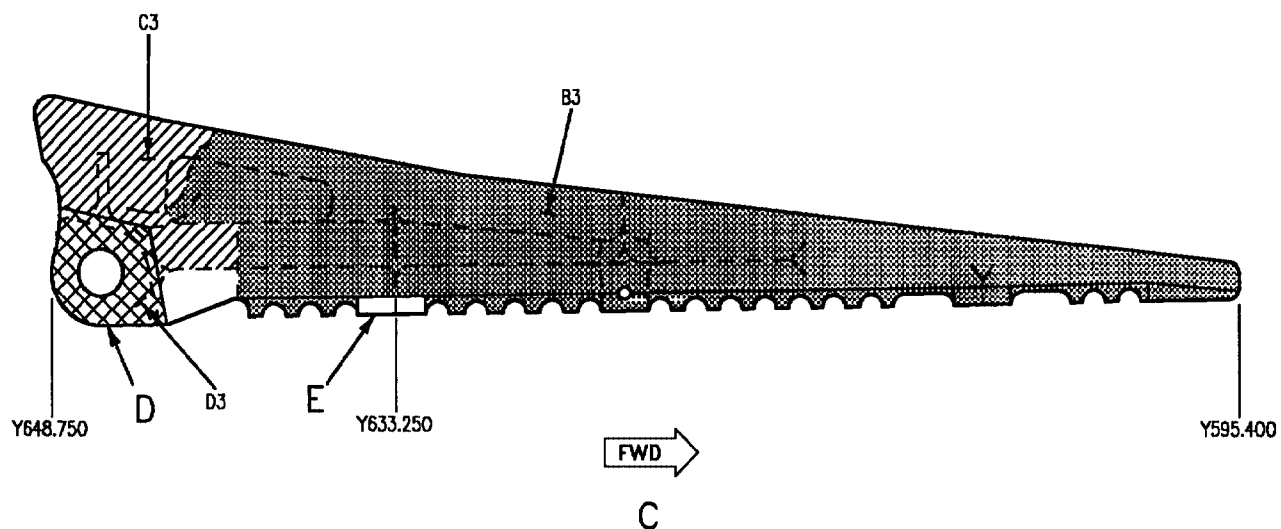


Figure 3. Support Repair Zones (Sheet 3)

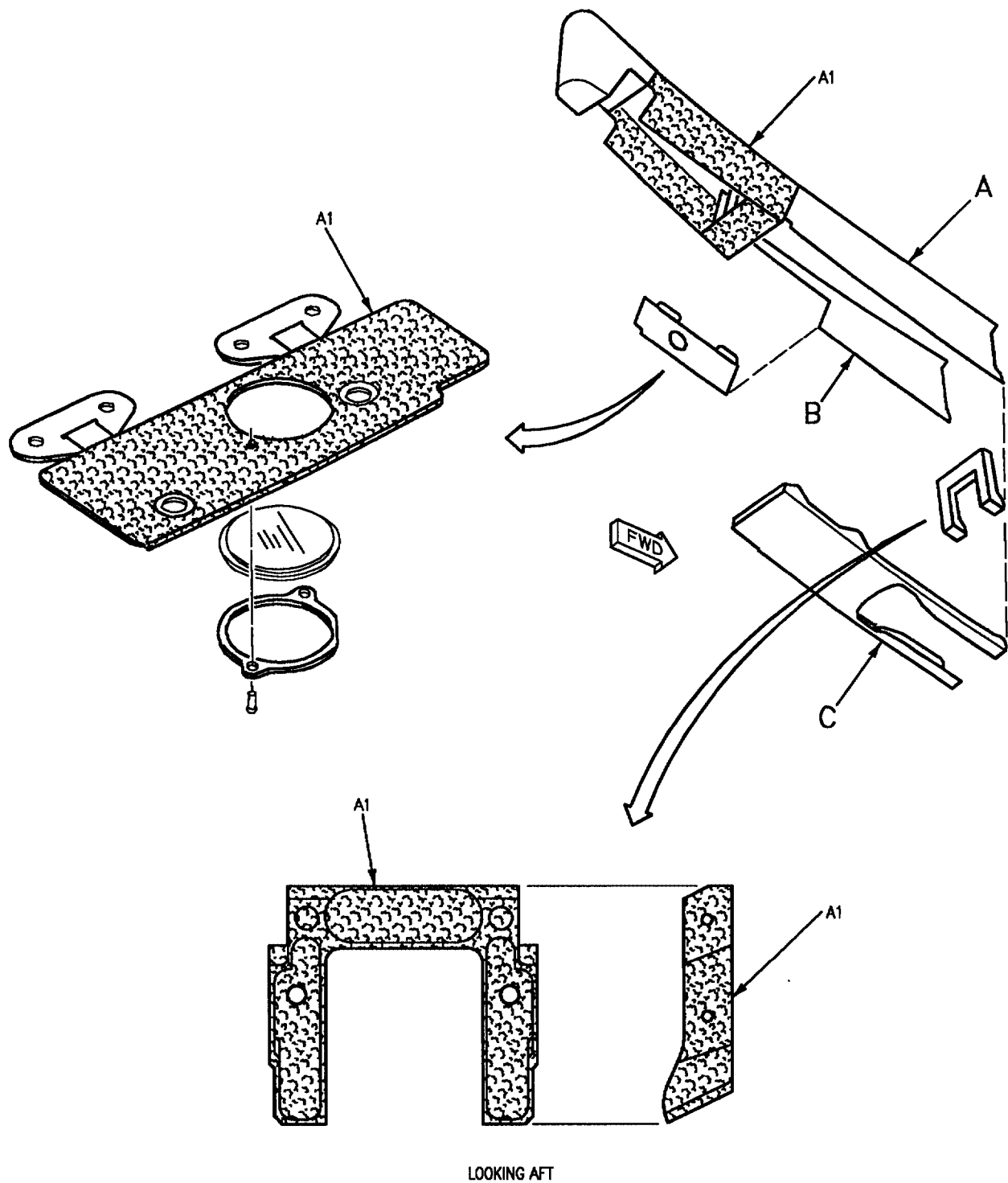


Figure 4. Fairing Repair Zones (Sheet 1)

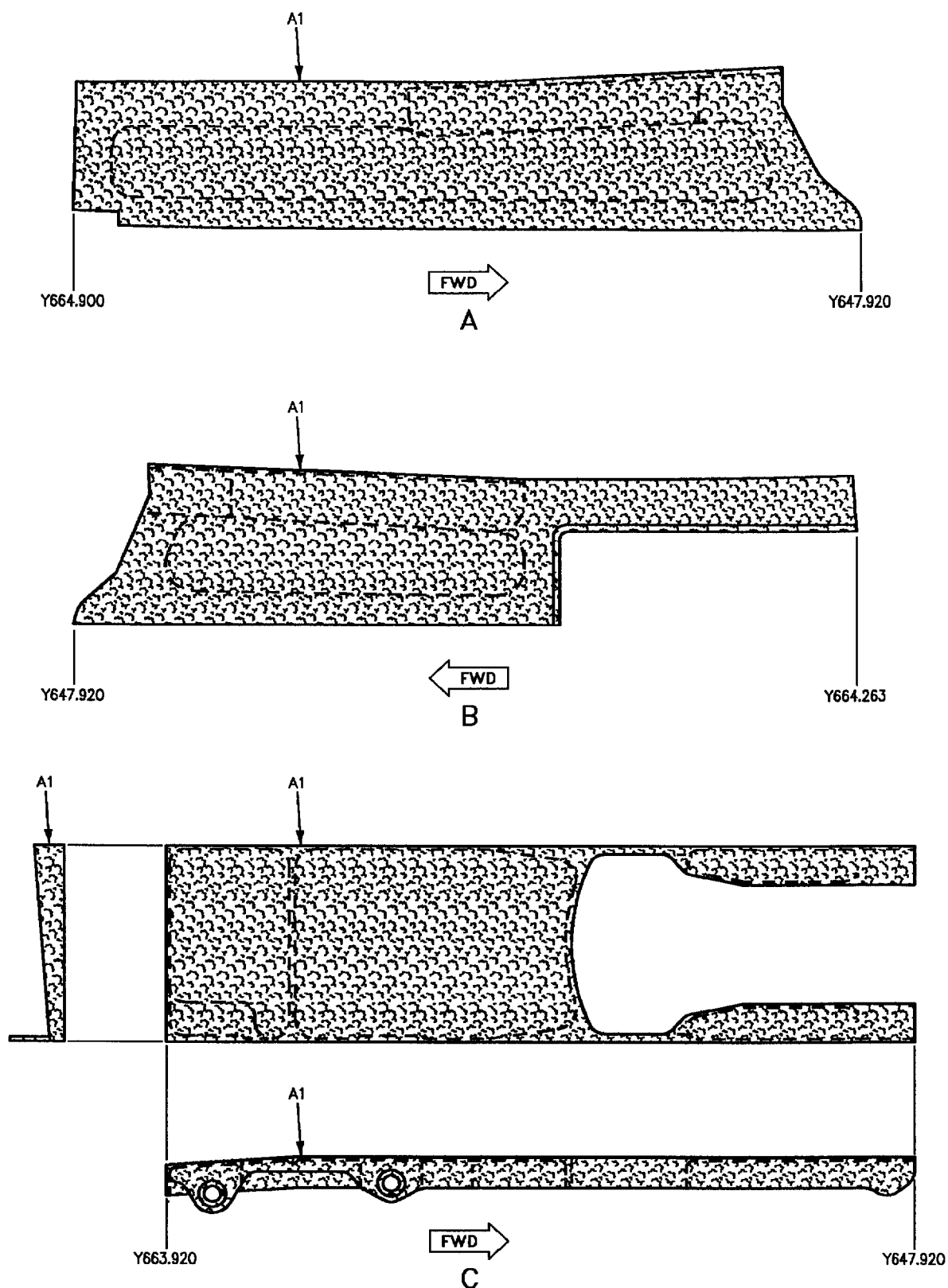


Figure 4. Fairing Repair Zones (Sheet 2)

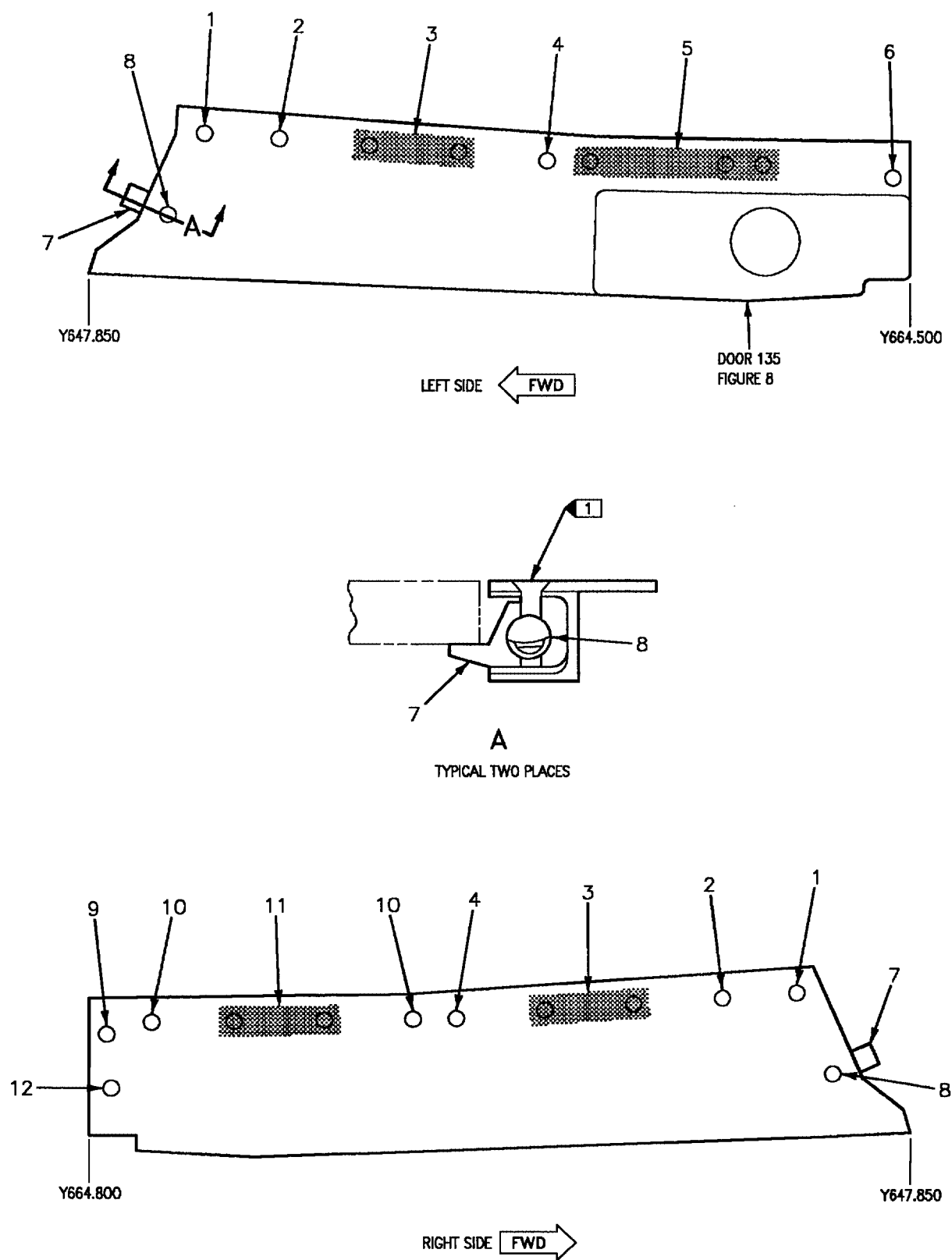


Figure 5. Skin Assembly Replacement (Sheet 1)































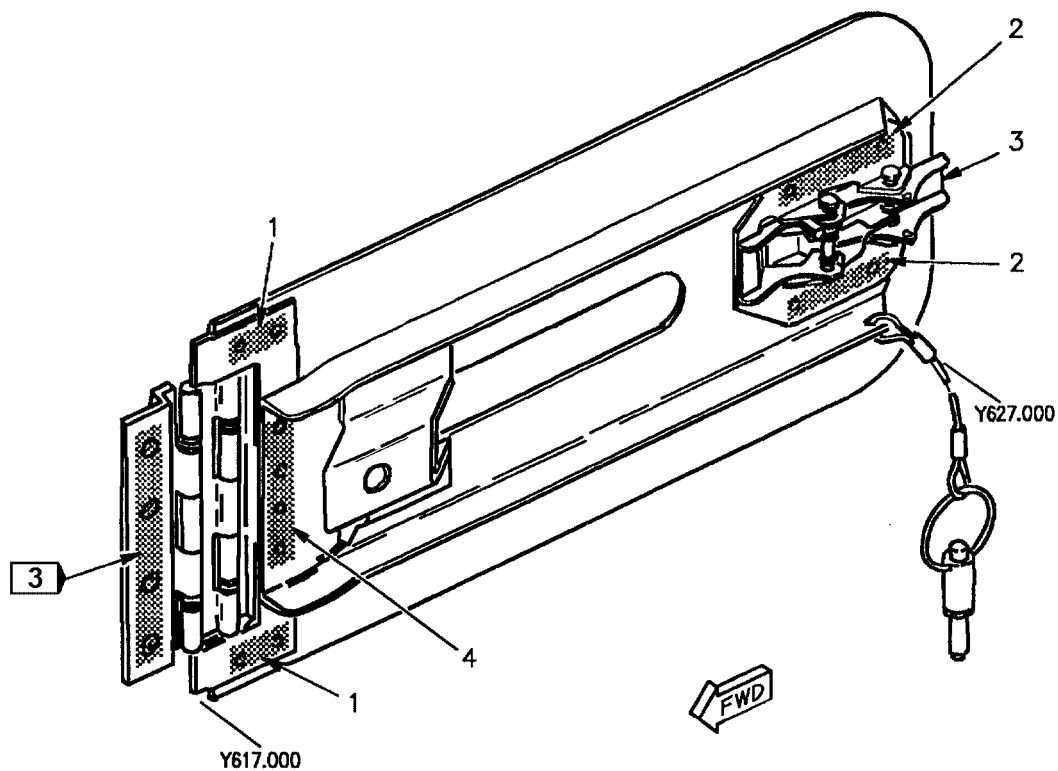
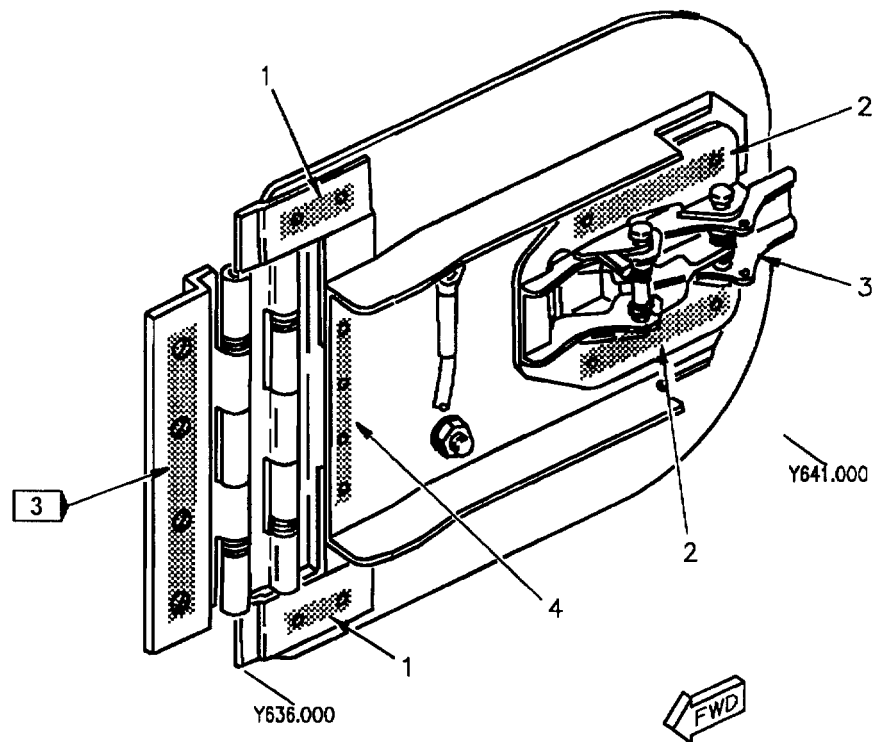
Idx No.	Eft		Nomenclature	Part Number
1			Barrel Nut Retainer	F55-2552-02 55-2552-02RET
2			Plate Nut 	F49251E3-3
3			Plate Nut 	F49249E3-3
4			Plate Nut 	F49251E3-4
5			Plate Nut  Spacer	F50403-3-4 NAS463FD10
6		 	Plate Nut  Spacer Plate Nut  Spacer	F50403-3-4 NAS463FD10M F49251E3-4  NAS463YD10M 
7	 		Clamp Clamp	74A333519-2001, -2002 74A333519-2003, -2004
8			Barrel Nut Retainer	2452-02 2452-02RET
9			Plate Nut  Spacer	F50403-3-4 NAS463FD510M
10			Plate Nut 	F49251E3-6
11			Plate Nut 	F49249E3-6
12			Plate Nut 	F49249E3-5
<p style="text-align: center;">LEGEND</p> <p> When installing fairing, torque bolts alternately to keep fairing centered. To remove fairing, loosen bolts but do not remove bolts completely.</p> <p> Hole diameter is 0.196 +0.006 -0.000.</p> <p> 161353 THRU 161741.</p> <p> 161742 AND UP.</p> <p> Attached with CSR902B-3 rivets, length determined on installation.</p> <p> Preferred replacement for F50403-3-4 plate nut and NAS463FD10M spacer.</p>				

Figure 5. Skin Assembly Replacement (Sheet 2)



Idx No.	Eft		Nomenclature	Part Number
1			Rivet	CSR904B-4-5
2			Rivet	CSR904B-5-6
3			Latch	H5100-2-102-179
4			Rivet	CSR904B-4-6
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1285 +0.0055 - 0.0000.</p> <p> Hole diameter is 0.161 +0.005 -0.000.</p> <p> Hole diameter is 0.191 +0.006 -0.000.</p>				

Figure 6. Door 164 Replacement









Idx No.	Eft		Nomenclature	Part Number
1			Rivet	CSR904B-4-5
2			Rivet	CSR904B-5-6
3			Latch	H5100-2-102-179
4			Rivet	CSR904B-4-6
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1285 +0.0055 -0.0000.</p> <p> Hole diameter is 0.161 +0.005 -0.000.</p> <p> Hole diameter is 0.191 +0.006 -0.000.</p>				

Figure 7. Door 165 Replacement

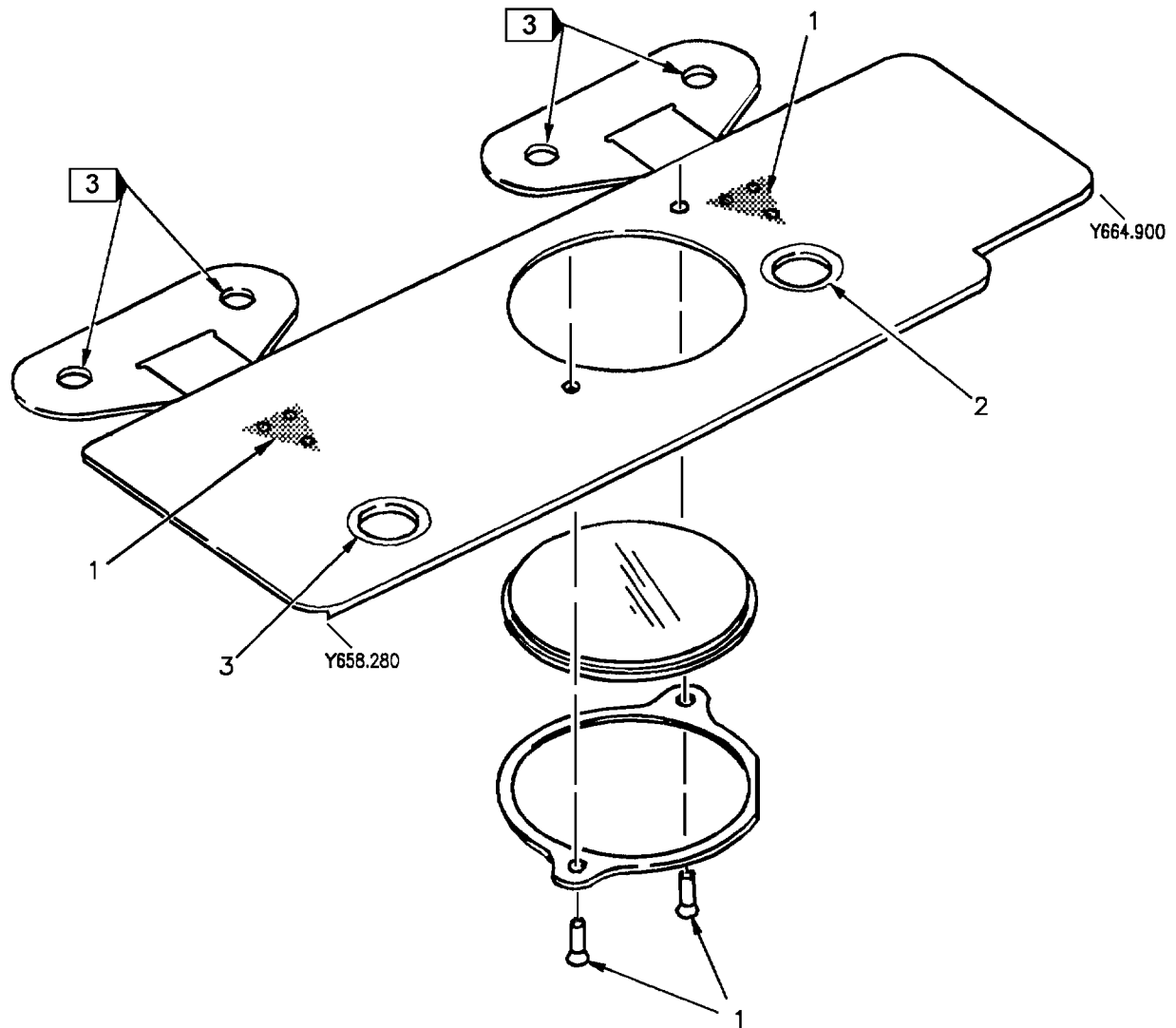


Figure 8. Door 135 Replacement (Sheet 1)










Idx No.	Eft		Nomenclature	Part Number
1			Rivet	MS20426AD3
2			Receptacle 	196012-6-10-1
3			Receptacle 	195012-6-10-1
LEGEND				
 Hole diameter is 0.098 +0.005 -0.000.				
 Hole diameter is 0.3770 +0.0050 -0.0000.				
 Hole diameter is 0.196 +0.006 -0.000.				
 Attached with BRZ4T rivets, length determined on installation.				

Figure 8. Door 135 Replacement (Sheet 2)

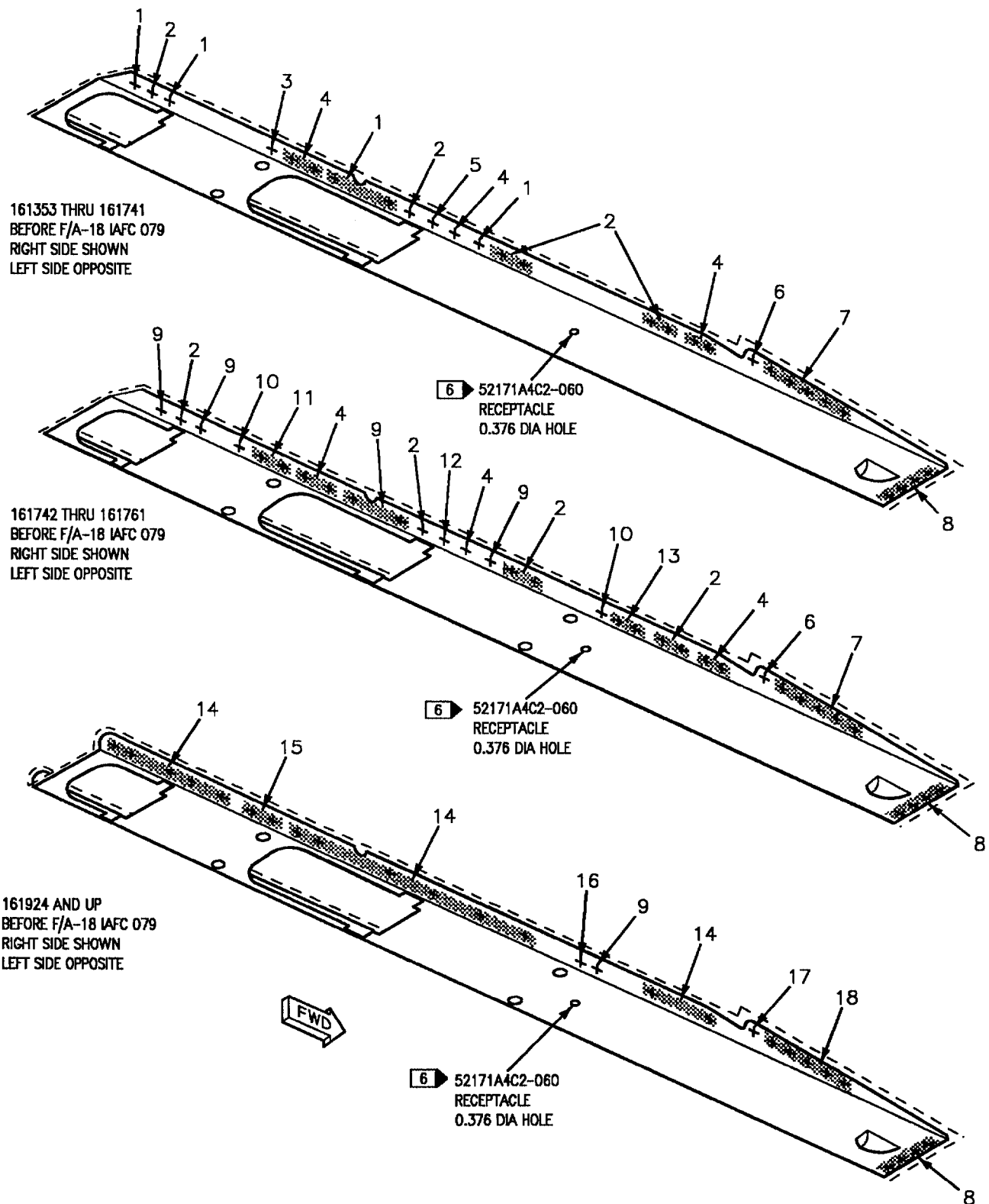


Figure 9. Fairing 74A332518 Replacement (Sheet 1)

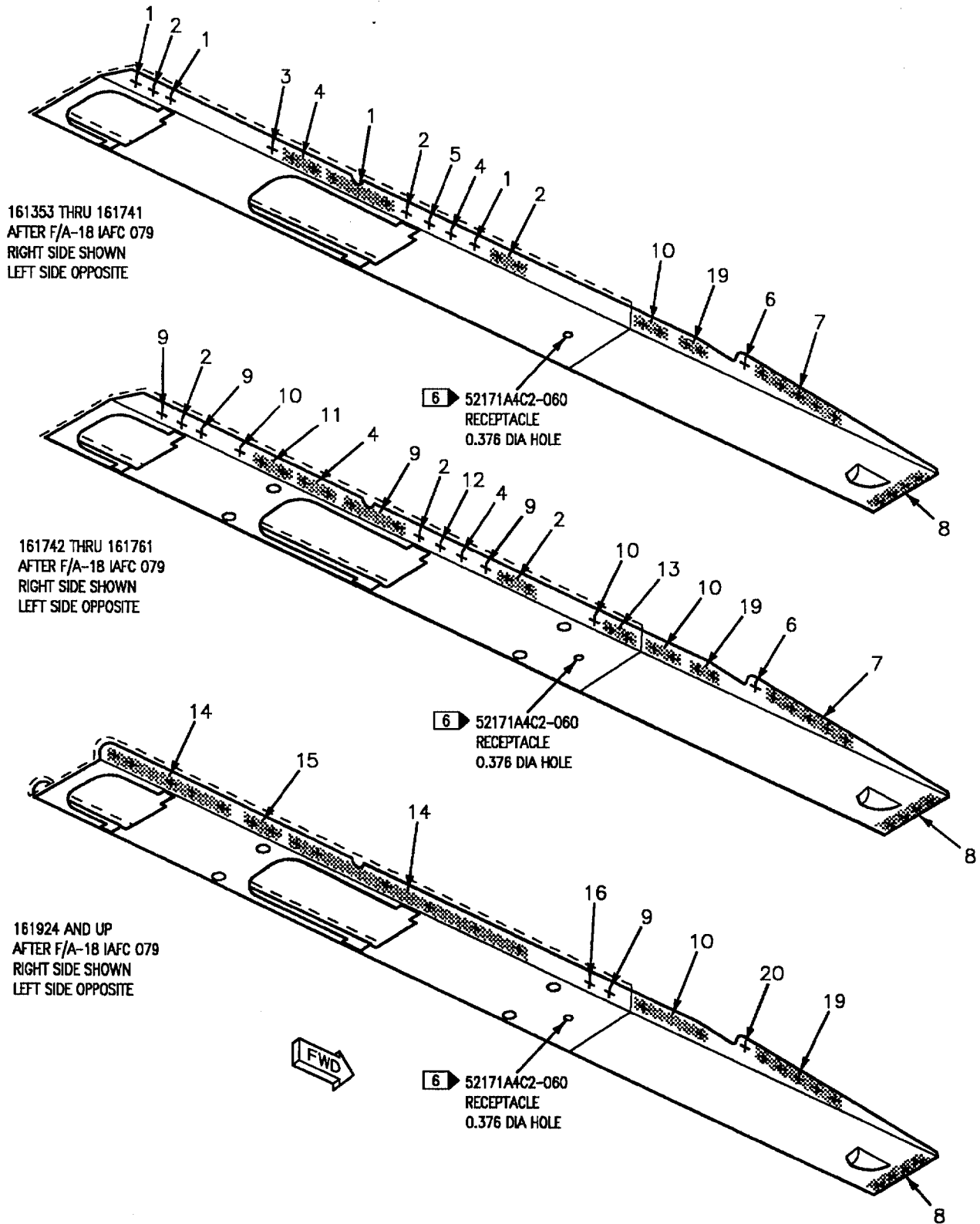


Figure 9. Fairing 74A332518 Replacement (Sheet 2)

Idx No.	Eft		Nomenclature	Part Number
1			Blind Fastener Washer	PLT170-5-2 NAS1169D8E
2			Blind Fastener	PLT1058-5-2
3			Blind Fastener Washer	PLT170-5-2 NAS1169D8E
4			Blind Fastener	PLT1058-5-3
5			Blind Fastener Washer	PLT170-5-3 NAS1169D8E
6			Blind Fastener	PLT1058-5-6
7			Blind Fastener	PLT1058-5-4
8			Blind Fastener	NAS1672-3-7
9			Blind Fastener Washer	PLT170-5-2 NAS1169D8E
10			Blind Fastener	PLT1058-5-2
11			Pin Collar	HLT311-5-4 HL570-5MC
12			Blind Fastener Washer	PLT170-5-3 NAS1169D8E
13			Pin Collar	HLT311-5-4 HL570-5MC
14			Blind Fastener Washer	PLT170-5-2 NAS1169D8E
15			Pin Collar	HLT311-6-4 HL570-6MC
16			Pin Collar	HLT311-5-4 HL570-5MC
17			Blind Fastener Washer	PLT 170-5-5 NAS1169D8E
18			Blind Fastener Washer	PLT170-5-3 NAS1169D83
19			Blind Fastener	PLT1058-5-3
20			Blind Fastener	PLT1058-5-5
LEGEND				
 Hole diameter is 0.1600 +0.0040 -0.0000 in fairing and 0.1640 +0.0040 -0.0000 in fitting.				
 Hole diameter is 0.1640 +0.0040 -0.0000 in fairing and fitting.				
 Hole diameter is 0.219 +0.006 -0.000 in fairing and 0.1645 +0.0025 -0.0000 in fitting.				
 Hole diameter is 0.1995 +0.0030 -0.0000 in fairing and fitting.				

Figure 9. Fairing 74A332518 Replacement (Sheet 3)

Idx No.	Eft		Nomenclature	Part Number
5			Hole diameter is 0.219 +0.006 -0.000 in fairing and 0.1640 +0.0040 -0.0000 in fitting.	
6			Replacement rivets, attaching receptacle (A1-F18AC-SRM-200, WP004 05).	
7			Hole diameter is 0.1860 +0.0025 -0.0000 in fairing and fitting.	
8			Hole diameter is 0.1600 +0.0025 -0.0000 in fairing and fitting.	

Figure 9. Fairing 74A332518 Replacement (Sheet 4)

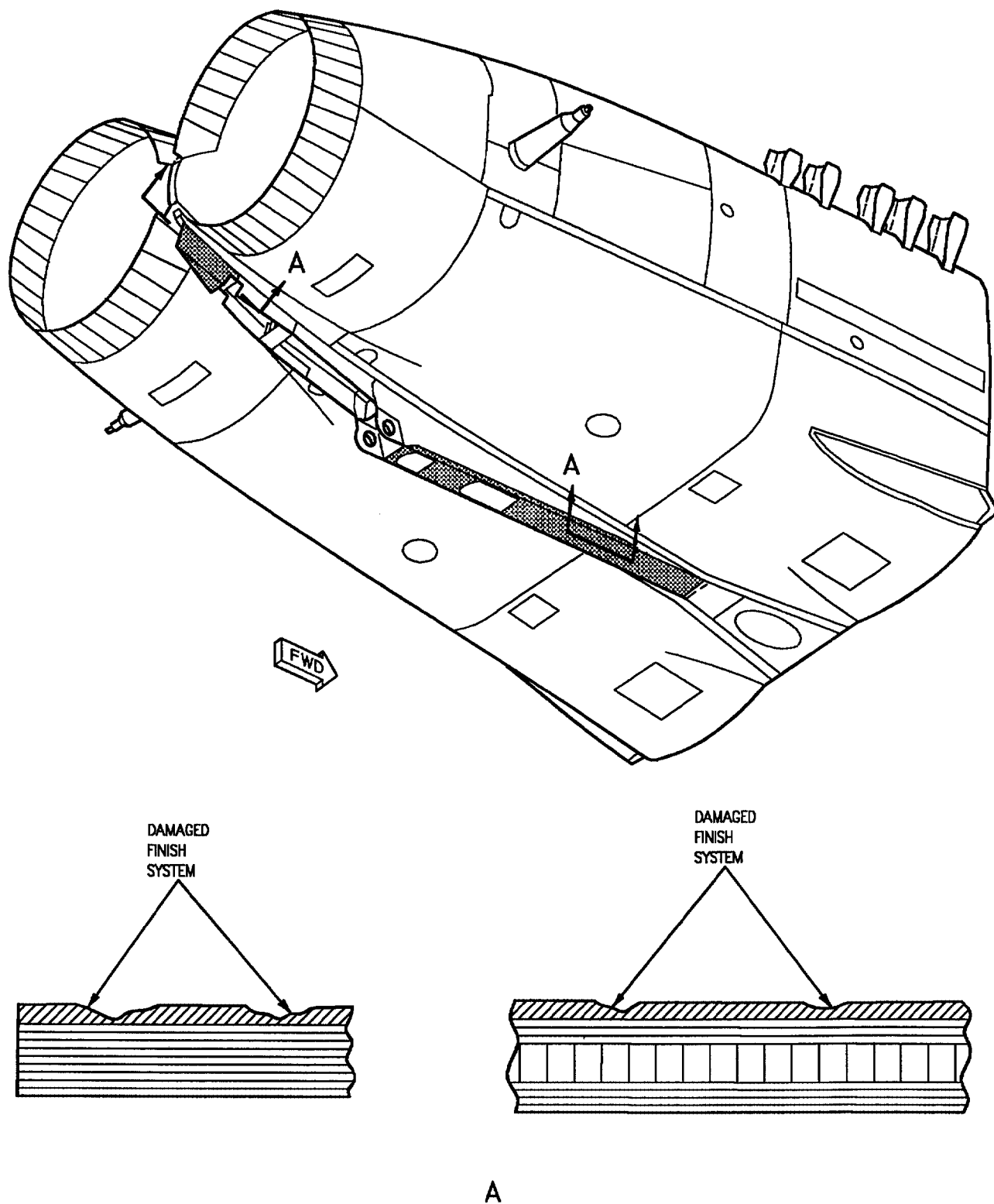


Figure 10. Negligible Damage - Fiberglass

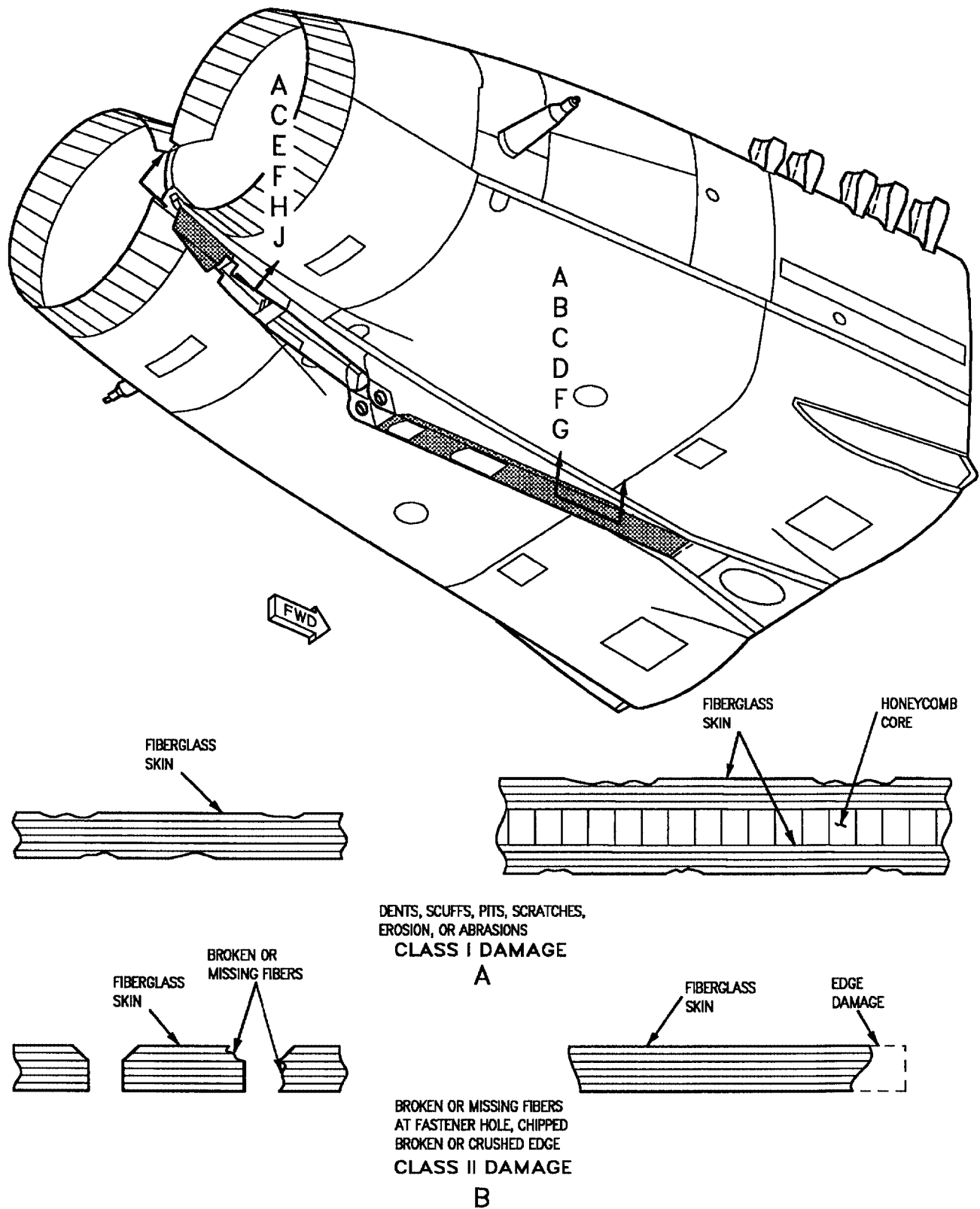
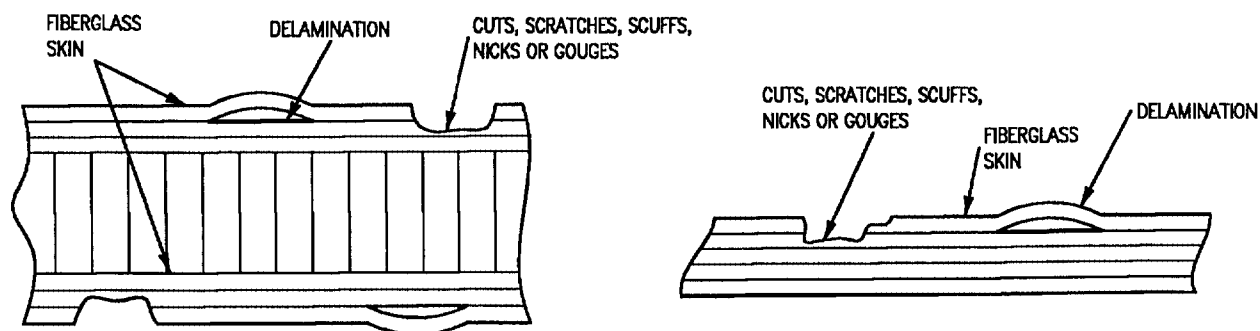
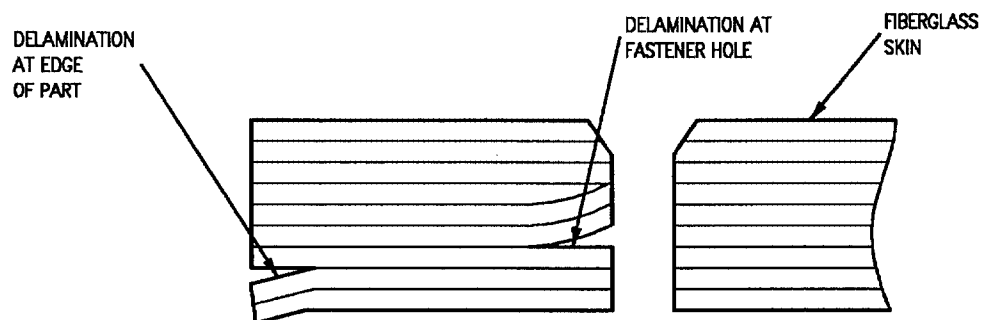


Figure 11. Repairable Damage - Fiberglass (Sheet 1)



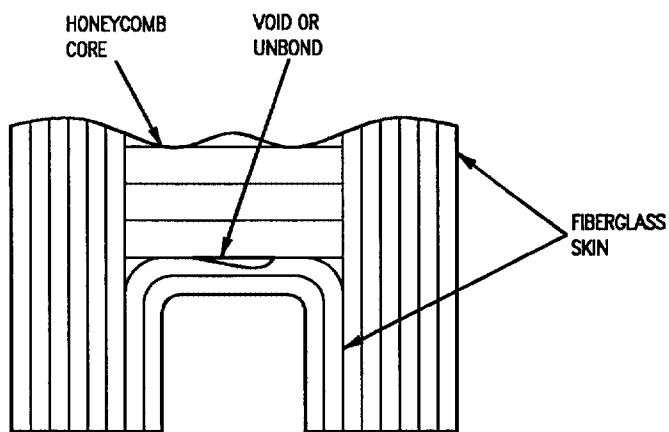
CUTS, SCRATCHES, SCUFFS, NICKS, GOUGES OR DELAMINATIONS
CLASS III DAMAGE

C



DELAMINATION AT EDGE OF PART AND AT FASTENER HOLE
CLASS IV DAMAGE

D



UNBONDS OR VOIDS BETWEEN RIB AND HONEYCOMB
CLASS V DAMAGE

E

Figure 11. Repairable Damage - Fiberglass (Sheet 2)

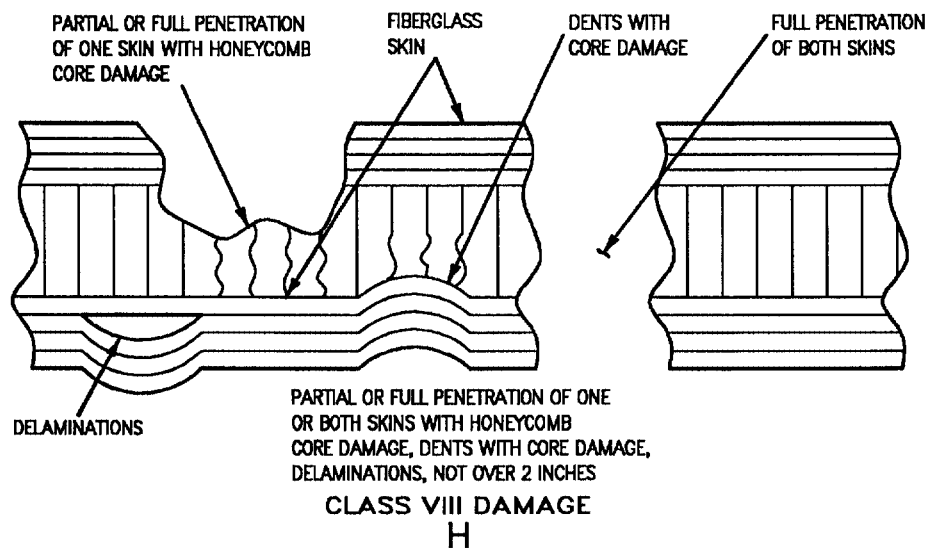
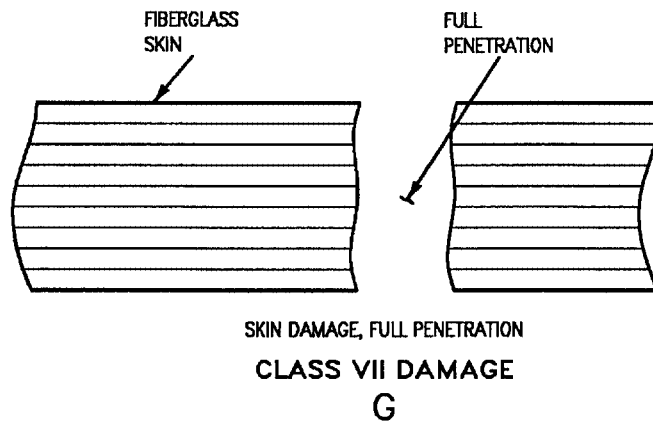
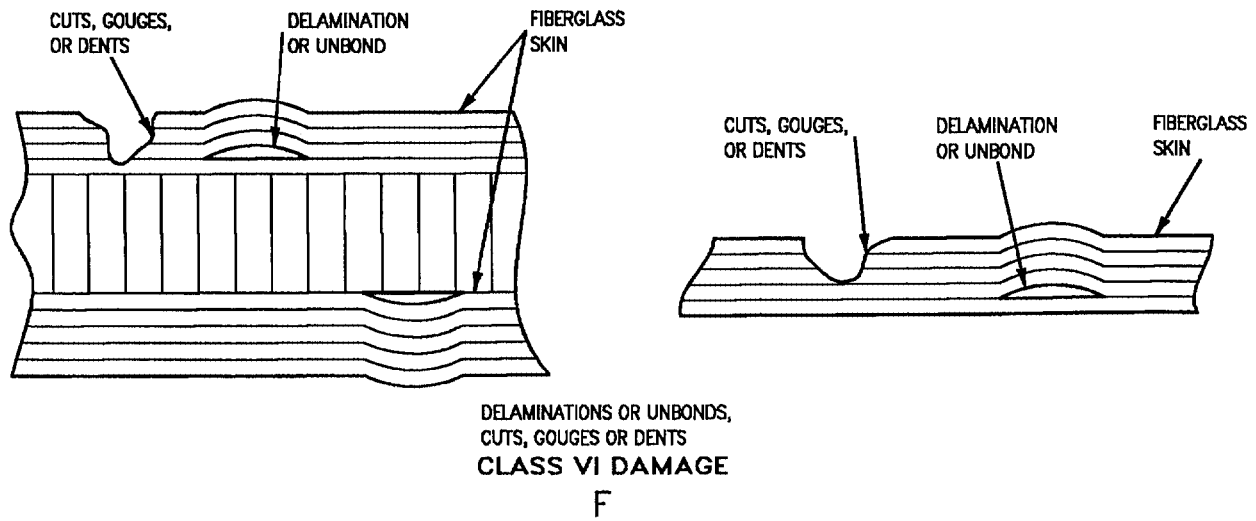


Figure 11. Repairable Damage - Fiberglass (Sheet 3)

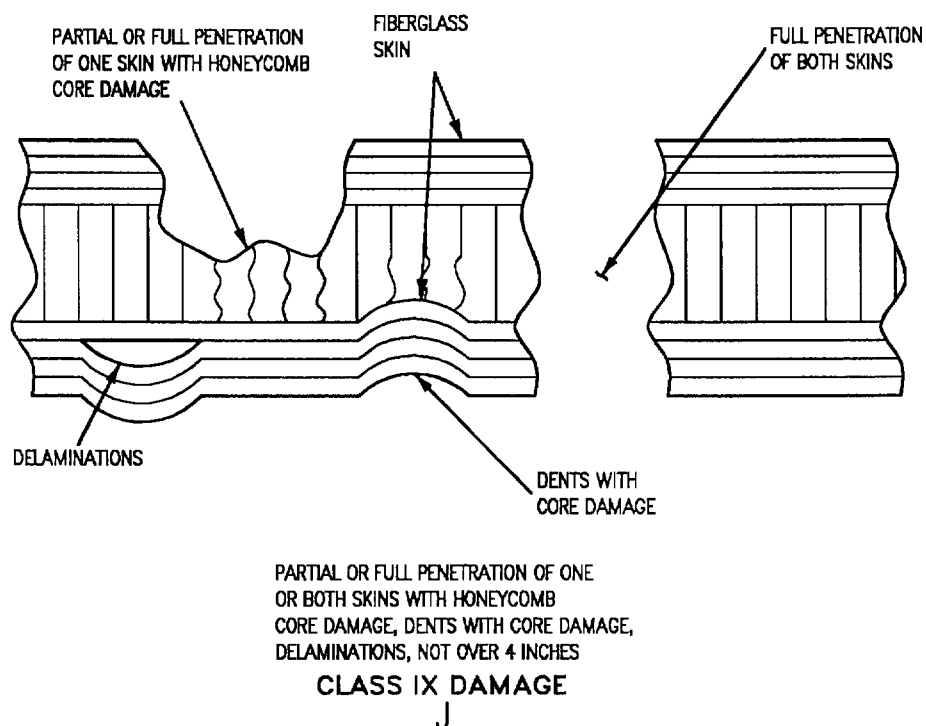


Figure 11. Repairable Damage - Fiberglass (Sheet 4)

DEPOT MAINTENANCE**STRUCTURE REPAIR****ARRESTING HOOK SUPPORT, RE274332520-1 ALIGNMENT
DEVICE AND HOLE TRANSFER FRAME, RE174332520-1
INSTALLATION AND COMPONENT REPLACEMENT**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Arresting Hook Support Fairing	WP006 00
Forward Engine Access (Door 64)	WP017 00
Center Engine Access (Door 68)	WP019 00
Combined Aft and Center Access (Door 68)	WP019 01
Landing Gear and Related Systems	A1-F18AC-130-300
Arresting Gear Hook	WP009 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Line Maintenance Procedures	A1-F18AC-LMM-000
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation - Engine	WP003 00
Structure Repair, General Information	A1-F18AC-SRM-200
Accessory Kits and Spray Mist Coolant Tank	WP004 16
Close Tolerance Hole Fabrication	WP004 31
Adhesive, Cement and Sealant-Preparation and Application	WP011 00

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Aircraft Preparation Down for Repair	2
Aligning Tooling Balls on Subassembly A With Known Aircraft Reference Points	3
Indexing To Damaged Arresting Hook Support	2
Indexing To Nominal Centerline Locations of Outboard and/or Inboard Fuselage Center Engine Bay Access Door 68 Attach Points	3
Installation of RE274332520-1 Arresting Hook Support, Alignment Device	2
Removal and Installation of 74A332520 Arresting Hook Support	4
Installation	5
Preparing RE174332520-1 Hole Transfer Frame for Future Use	6
Removal	5
Removal of RE274332520-1 Arresting Hook Support, Alignment Device	6

Record of Applicable Technical Directives

None

1. **INSTALLATION AND USE OF RE274332520-1 ARRESTING HOOK SUPPORT, ALIGNMENT DEVICE.** See figure 1.

2. For removal and replacement of 74A332520 arresting hook support.

Support Equipment Required

NOTE

Alternate item type designations are listed in parentheses.

Nomenclature	Part Number or Type Designation
Hoist, Overhead	1262AS100-1
Alignment Device, Arresting Hook Support	RE274332520-1
Trailer Lift, 3000 Pound	343AS100 4000A (PGD 7558)

Materials Required

None

3. AIRCRAFT PREPARATION DOWN FOR REPAIR.

a. Make sure electrical and hydraulic power are removed from aircraft (A1-F18AC-LMM-000).

b. Open door 74 on 161353 thru 161741 (A1-F18AC-LMM-010).

c. Remove door 68 on 161353 thru 161741 (WP019 00) on 161742 and up (WP019 01).

d. Remove door 64 (WP017 00).

e. Remove engines (A1-F18AC-270-300, WP003 00).

f. Remove arresting gear hook (A1-F18AC-130-300, WP009 00).

g. Remove arresting hook support fairing (WP006 00).

4. INSTALLATION OF RE274332520-1, ARRESTING HOOK SUPPORT, ALIGNMENT DEVICE. See figure 1.

a. Hoist subassembly B on to trailer lift (trailer) 343AS100 Model 4000A or PDG7558, view B.

b. Position subassembly B on rails of trailer. On 4000A trailer use four outer roller assemblies (detail 121) and lock brakes. On alternate PDG7558 trailer use four inner roller subassemblies C and D, and lock brakes, view B.

c. Lift subassembly A onto subassembly B using hoist rings (detail 126). Align four chamfered plugs (detail 136) on subassembly B with mating holes in subassembly A.

d. Hand tighten seven toggle screws (detail 167) securing subassembly A to subassembly B.

e. Position trailer under keel of aircraft.

f. Using integral adjusters on trailer, index subassembly A to aircraft by one of following methods:

(1) Index to damaged arresting hook support, go to Indexing to Damaged Arresting Hook Support, below.

(2) Aligning tooling balls on subassembly A with known aircraft reference points, go to Aligning Tooling Balls on Subassembly A with Known Aircraft Reference Points, below.

(3) Indexing to nominal centerline locations of outboard and/or inboard fuselage, center engine bay access door 68 attach points, go to Indexing to Nominal Centerline Locations of Outboard and/or Inboard Fuselage Center Engine Bay Access Door 68 Attach Points, below.

5. INDEXING TO DAMAGED ARRESTING HOOK SUPPORT. See figure 1.

a. Align hinge pin locator (detail 17) and pivot point of arresting hook support, and insert L - pins (detail 160), view G.

b. Insert hinge pin simulator bar (detail 130) through pivot point and insert ball lock pins (detail 166) in both sides of simulator bar (detail 130).

c. Set stop (detail 138) against bottom side of outboard horizontal legs of 74A332001 longeron assembly, view E.

d. Slide two clamps (detail 137) inboard over top side of 74A332001 assembly and tighten cap screws (detail 141), view E.

e. Adjust set screws (detail 143), if required.

f. Set two swivel head screws (detail 139) against bottom side of 74A332001 longeron legs, view E.

g. Remove stop (detail 138) if required and adjust forward end of subassembly A, using swivel head screws (detail 139), view E.

h. Adjust jack screw (detail 144) until it contacts arresting hook support, view C.

i. Install renewable bushings (detail 148) at each locator (details 151, 157 and subassemblies E and F). Insert pins (detail 128) through renewable bushings (detail 148) and engine bay door 68 attach points, view D and F.

NOTE

Nuts on pins at aft attach points should be hand tight only.

j. Install washers (detail 142) and knurled nuts (detail 140) at each pin (detail 128).

k. Tighten cap screws (detail 147) at locators (details 151, 157 and subassemblies E and F) with wrench.

l. Go to Indexing to Nominal Centerline Locations of Outboard and/or Inboard Fuselage Center Engine Bay Access Door 68 Attach Points, step n, below.

6. ALIGNING TOOLING BALLS ON SUBASSEMBLY A WITH KNOWN AIRCRAFT REFERENCE POINTS. See figure 1.

a. Optically level aircraft using target points shown, view A.

b. Remove index pins (detail 146) at locators (details 151, 157 and subassemblies E and F), allowing locators to float.

c. Install renewable bushings (detail 148) at each locator and insert pin (detail 128) through bushings and engine bay door 68 attach points.

NOTE

Outboard attach points are located at Y645.850, Z89.900, X + 38.153 and Y657.350, Z89.900 X + 38.153. Inboard attach points are located at Y645.850, Z81.065, X + 3.510 and Y657.350, Z83.000, X + 3.413.

d. Optically align three tooling balls on subassembly A to aircraft reference system using integral adjusters on trailer.

NOTE

Nuts on pins at aft attach points should be hand tight only.

e. Install washer (detail 42) and nut (detail 140) at each pin (detail 128).

f. Tighten cap screws (detail 147) at each locator with wrench.

g. Clamp forward end of subassembly A to outboard horizontal legs of 74A332001 longeron assembly using two clamps (detail 137) and cap screws (detail 141) and swivel head screws (detail 139).

h. Adjust jack screw (detail 144) until it contacts arresting hook support.

i. Align hinge pin locator (detail 17) and pivot point of arresting hook support and insert L-pins (detail 160).

j. Insert hinge pin simulator bar (detail 130) through pivot point and insert ball lock pins (detail 166) through both sides of simulator bar (detail 130).

k. Go to Indexing to Nominal Centerline Locations of Outboard and/or Inboard Fuselage Center Engine Bay Access Door 68 Attach Points, step n.

7. INDEXING TO NOMINAL CENTERLINE LOCATIONS OF OUTBOARD AND/OR INBOARD FUSELAGE CENTER ENGINE BAY ACCESS DOOR 68 ATTACH POINTS. See figure 1.

NOTE

Whether using inboard or outboard attach points for indexing, bushings in attach points are removed, same pins are used and same procedures are followed.

a. Remove bushings installed in the inboard and/or outboard attach points.

b. With cap screws (detail 147) tightened and index pins (detail 146) holding locator (detail 151) in nominal position, position subassembly A so forward face of locator (detail 151) is against aft face of forward attach point.

c. On aircraft with 1.000 inch O.D. attach point bushings install pin (detail 127) through locator (detail 151) and attach point.

d. On aircraft with 0.8125 inch O.D. attach point bushings, install renewable bushing (detail 149) in locator (detail 151) and use pin (detail 129) in place of pin (detail 127).

NOTE

Nuts on pins at aft attach points should be hand tight only.

e. Install washer (detail 142) and knurled nut (detail 140) at each locator (detail 151).

f. Remove index pins (detail 146) allowing locators to float at four remaining attach points, forward inboard attach points (subassemblies E and F) and at aft inboard attach point locators (detail 157).

g. Install bushing (detail 148) in each locator and insert pin (detail 128) through each bushing (detail 148) and attach point.

NOTE

Nuts on pins in aft attach points should be hand tight only.

h. Install washer (detail 142) and knurled nut (detail 140) at each pin.

i. Tighten screws (detail 147) at each locator with wrench.

j. Clamp forward end of subassembly A to 74A332001 longeron assembly, using two clamps (detail 137), cap screws (detail 141) and swivel head screws (detail 139).

k. Adjust jack screw (detail 144) until it contacts arresting hook support, view C.

l. Align hinge pin locator (detail 17) and pivot point of arresting hook support and insert L-pins (detail 160), view G.

m. Insert hinge pin simulator bar (detail 130) through pivot point and insert ball lock pins (detail 166) in both sides of simulator bar (detail 130).

n. With subassembly A locked in rigged position, loosen seven toggle screws (detail 167).

o. Lower trailer with subassembly B attached until completely clear of aircraft and can be rolled aside.

8. REMOVAL AND INSTALLATION OF 74A332520 ARRESTING HOOK SUPPORT. See figure 2 and 3.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Accessory Kit, Drilling Machine	RE374000002-1
Aircraft Structure Repair, Tool Kit	74D110325-1001
Drilling Machine- Positive Feed, 640-265 RPM	74D110314-1003
Drilling Machine- Positive Feed, 250 RPM	74D110314-1009
Frame, Hole Transfer Arresting Hook Support	RE174332520-1
Tank Assembly, Coolant, Spray Mist	RE874000002-1

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Cloth, Cleaning	MIL-C-87962, Type 1

Materials Required (Cont.)

Nomenclature	Specification or Part Number
Isopropyl Alcohol	TT-I-735, Grade 1
Sealing Compound	MIL-S-81733, Type 2, Class 2

9. REMOVAL.

a. With alignment device secured, remove fasteners in damaged arresting hook support. See figure 2.

b. Remove door hinges 74A331651 on aircraft 161353 thru 161741. See figure 3, view F.

c. Remove 74A885609-2327 bracket on aircraft 161353 thru 161524, view A.

d. Remove 74A885609-2393 brackets on aircraft 161525 and up, view B.

e. Install drill plate, subassembly A on left side and drill plate, subassembly B on right side of arresting hook support. See figure 2.

f. Drill plates are indexed to hinge pin simulator bar (detail 130) at Y645.850, Z72.200.

g. Position forward end of each drill plate so that spacer (detail 107) rests on top edge of arresting hook support. View B.

h. Make sure fastener holes in arresting hook support and longeron assembly are in line.

i. Clamp drill plates to arresting hook support using C-clamps.

j. Pin loose 3/8 inch I.D. index bushings (detail 106) to locator (detail 131) on alignment device using index pins (detail 146).

k. Refer to appropriate hole board and pot bushings in each drill plate, hole locating plate set accessory kit, (A1-F18AC-SRM-200, WP004 16).

l. Remove subassembly A and B after allowing sufficient time for curing.

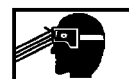
m. Repeat steps e through l for subassemblies C and D.

n. Temporarily support arresting hook support.

o. Remove ball lock pins (detail 166). Pull alignment device simulator bar (detail 130) and forward L-pin (detail 160) allowing alignment device locator (detail 17) to swing down.

p. Retract alignment device jack screw (detail 144).

q. Remove arresting hook support.

10. INSTALLATION.

Isopropyl Alcohol

1

a. Clean mating area of 74A332001 longeron assembly with clean cheesecloth moistened with isopropyl alcohol, figure 2.

b. Install blank arresting hook support into position between vertical legs of longeron assembly.

c. Support forward end of arresting hook support with jack screws (detail 144).

d. Swing alignment device locator (detail 17) to up position and lock into position by inserting L-pin (detail 160).

e. Insert hinge pin simulator bar (detail 130) through arresting hook support and locator (detail 17) and insert ball lock pins (detail 166) in both sides of simulator bar (detail 130).

f. Install subassembly A and B, by removing pins (detail 166) and by slipping drill plates over alignment device hinge pin simulator bar (detail 130). Replace index pins (detail 166).

g. Insert L-pin (detail 146) through index bushing (detail 106) and locator (detail 131).

h. Adjust forward end of arresting hook support with jack screw (detail 144) until upper edge of at

arresting hook support is net against spacer (detail 107) on subassemblies A and B, view B.

i. Clamp subassemblies A and B to arresting hook support with C-clamps.

j. Refer to appropriate hole board and drill holes in accordance with close tolerance hole fabrication repair number 54 (A1-F18AC-SRM-200, WP004 31).

k. Drill undersized holes first to ensure proper clean-up of existing holes.

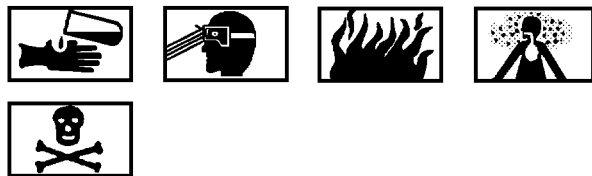
l. Remove drill plates, subassemblies A and B.

m. Repeat steps i through l for subassemblies C and D.

n. Countersink holes as required.

o. Remove drilled arresting hook support per Removal, this WP, step n thru q.

p. Deburr arresting hook support and clean with clean cheesecloth moistened with isopropyl alcohol.



Sealing Compound

8

q. Fay surface seal mating surfaces of 74A332001 longeron assembly and arresting hook support, using MIL-S-81733 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

r. Position drilled arresting hook support, per steps b thru e.

s. Fay surface seal with MIL-S-81733 and locate 74A885609-2393 brackets on aircraft 161525 and up. Figure 3, view B.

t. On aircraft 161353 thru 161524, fay surface seal with MIL-S-81733 and locate 74A885609-2327 bracket, view A.

u. On aircraft 161353 thru 161741, fay surface seal with MIL-S-81733 and locate 74A331651 door hinge, view F.

v. Locate and drill 74A330710-2027 and -2029 laminated shims. Fay seal with MIL-S-81733 and peel as required to maintain 0.019 gap, view G.

w. Install fasteners wet with MIL-S-81733 sealant. Remove excess sealant to allow for collar installation.

11. PREPARING RE174332520-1 HOLE TRANSFER FRAME FOR FUTURE USE.

a. Remove potted lock liner bushing from drill plates and restore to original condition, for cleaning bushing liners (A1-F18AC-SRM-200, WP004 16).

b. Return drill plates to storage box.

12. REMOVAL OF RE274332520-1 ARRESTING HOOK SUPPORT, ALIGNMENT DEVICE. See figure 1.

a. Position trailer, with adapter, subassembly B, secured, below alignment device, subassembly A.

b. Align four chamfered plugs (detail 136) on subassembly B with mating holes on subassembly A using integral adjusters on trailer, view B.

c. Hand tighten seven toggle screws (detail 167) securing subassembly A to subassembly B.

d. Remove eight pins (detail 127, 128 and/or 129) in center engine bay access door attach points.

e. Pull ball lock pins (detail 166) and remove hinge pin simulator bar (detail 130).

f. Remove forward L-pin (detail 160) allowing locator (detail 17) to swing down.

g. Loosen two screws (detail 141) at forward end of subassembly A and slide two clamps (detail 137) outboard to clear 74A332001 longeron assembly.

h. Retract jack screw (detail 144).

i. Verify that all details attaching subassembly A to aircraft and arresting hook support have been removed and/or disconnected.

j. Lower trailer until subassembly A clears aircraft and can be rolled aside.

k. Return subassembly A and B to storage box.

13. AIRCRAFT PREPARATION UP FOR FLIGHT STATUS.

- a. Install arresting hook support fairing (WP006 00).
- b. Install arresting gear hook (A1-F18AC-130-300, WP009 00).

- c. Install engines (A1-F18AC-270-300, WP003 00).
- d. Install door 64 (WP017 00).
- e. Install door 68 on 161353 thru 161741 (WP019 00) on 161742 and up (WP019 01).
- f. Close door 74 on 161353 thru 161741 (A1-F18AC-LMM -010).

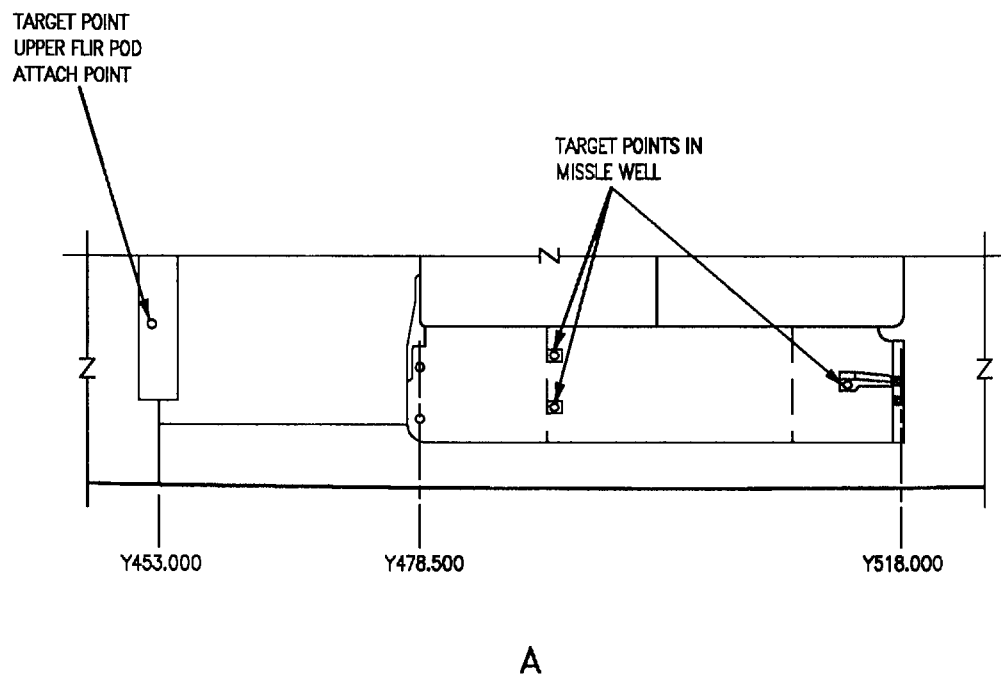
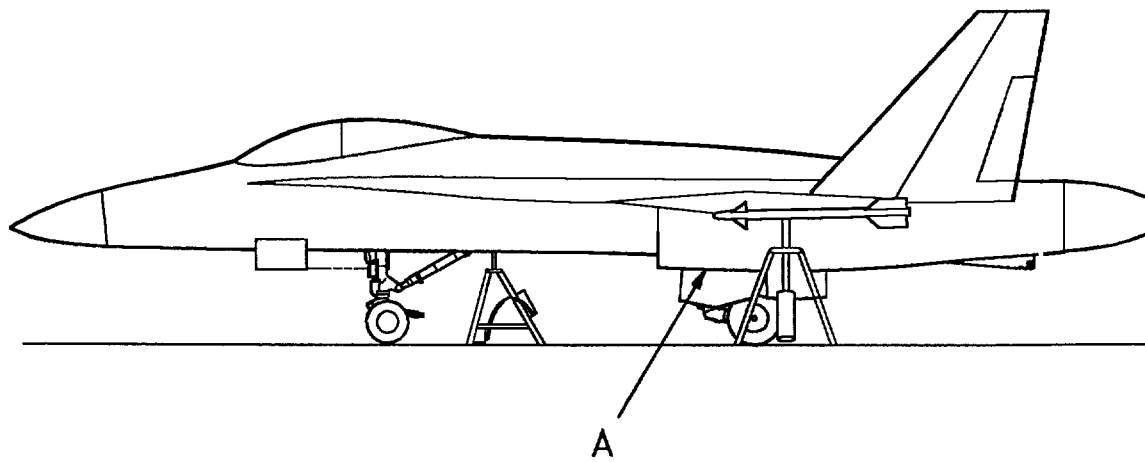


Figure 1. Installation of RE274332520-1, Alignment Device (Sheet 1)

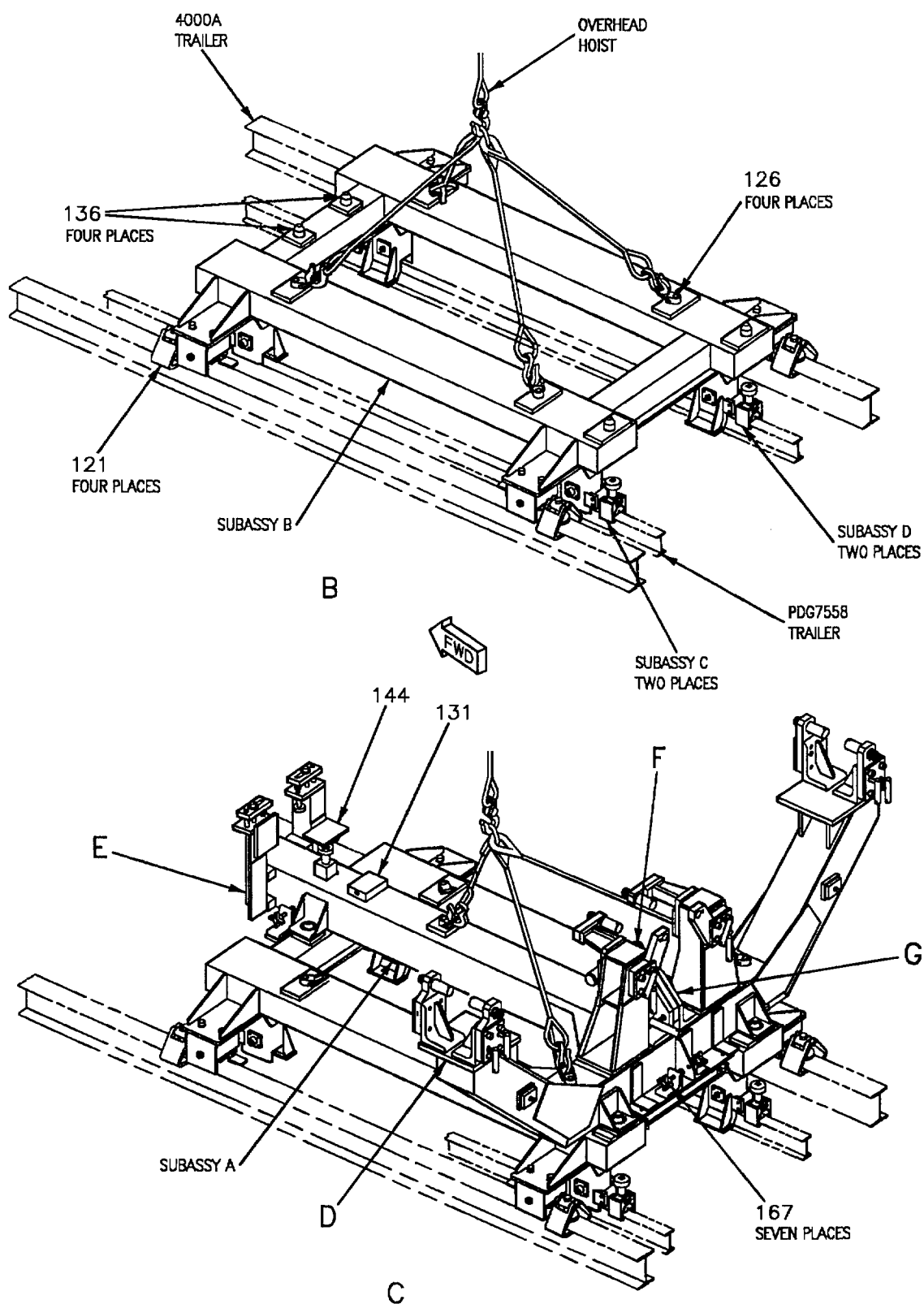


Figure 1. Installation of RE274332520-1, Alignment Device (Sheet 2)

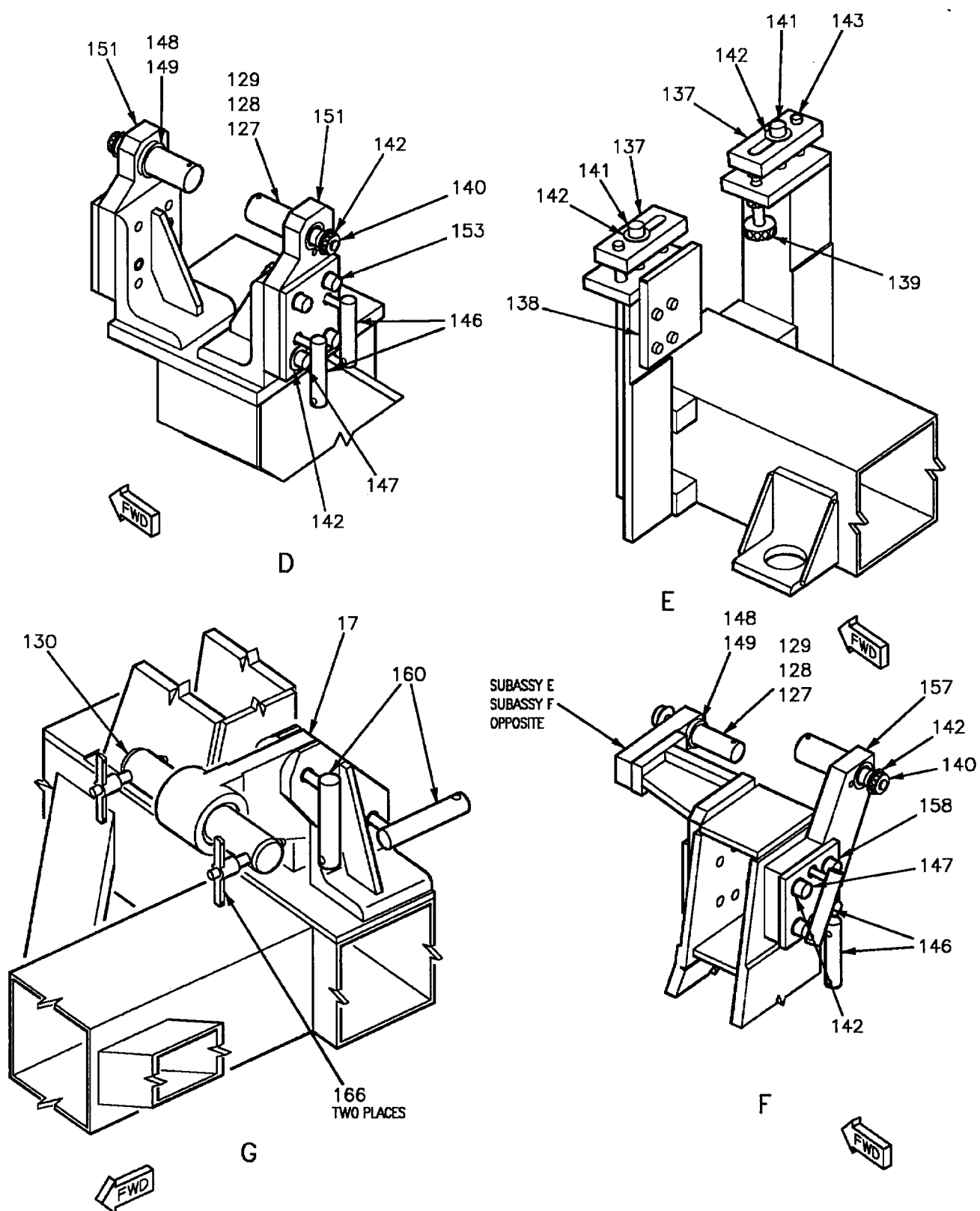


Figure 1. Installation of RE274332520-1, Alignment Device (Sheet 3)

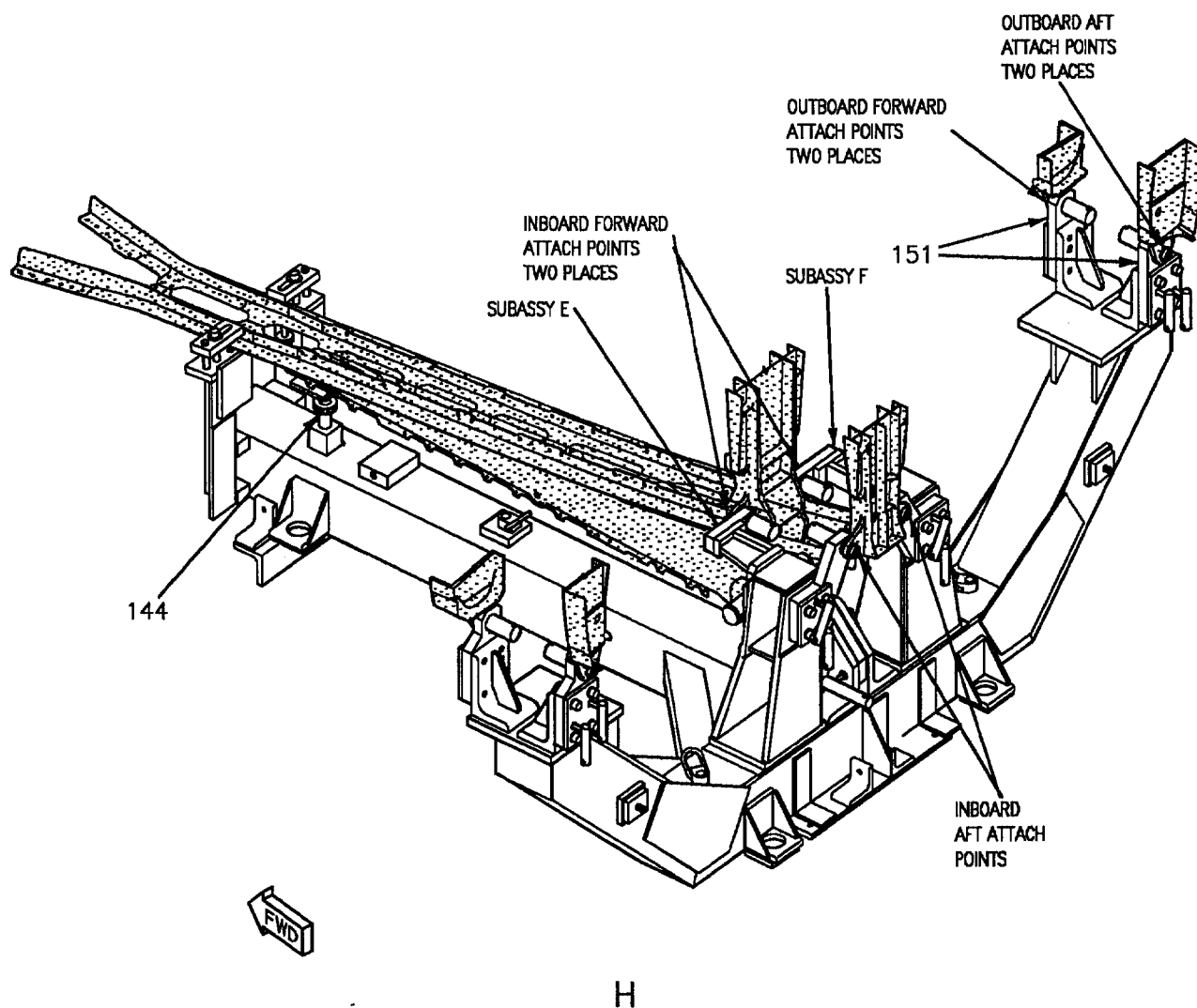


Figure 1. Installation of RE274332520-1, Alignment Device (Sheet 4)

Detail No.	Name	Function
Subassembly A	Alignment device	Used to remove & replace arresting hook support
Subassembly B	Adapter	Supports subassy A
Subassy C AND D	Roller adapter	Secures assembly B to PDG-7558 utility trailer
Subassy E AND F	Locator	Secures assembly A to forward inboard attach points.
17	Locator	Locates assembly A and hinge pin simulator bar
121	Roller adapter (4000A trailer)	Secures assembly B to 4000 A utility trailer
126	Hoist ring	Used to lift assemblies A and B
127, 128, 129	Pin	Used with 151, 157, and subassys E and F to secure assy A to attach points
130	Hinge pin simulator bar	Aligns 17 with hinge pin bushing in arresting hook support
131	Locator	Locates forward end of drill plates
136	Chamfered plugs	Aligns assembly A with assembly B
137	Clamps	Secures forward end of alignment device with longeron assembly
138	Stop	Indexes alignment device with longeron assy
139	Swivel head screws	Used to adjust forward end of subassembly A to bottom side of longeron assy
140	Knurled nut	Used to secure 127, 128, 129 to E, F, 151 and 157
141	Cap screw	Tightens detail 137
142	Washer	Used with detail 140
143	Set screw	Adjust detail 137
144	Jack screw	Aligns forward end of assembly A with arresting hook support
146	Index pins	Secure subassemblies E and F and details 151 and 157 to subassy A
147	Cap screw	Tightens subassys E and F and details 151 and 157 to subassy A
148, 149	Renewable bushing	Used with details 127, 128, 129 to locate subassy E and F and details 151 and 157

Figure 1. Installation of RE274332520-1, Alignment Device (Sheet 5)

Detail No.	Name	Function
151	Locator	Secures assembly A to forward and aft outboard attach points
157	Locator	Secures assembly A to aft inboard attach points
160	L-pin	Locate detail 17
166	Ball lock pins	Used to hold detail 130 in position
167	Toggle screws	Secures subassembly A to subassembly B

Figure 1. Installation of RE274332520-1, Alignment Device (Sheet 6)

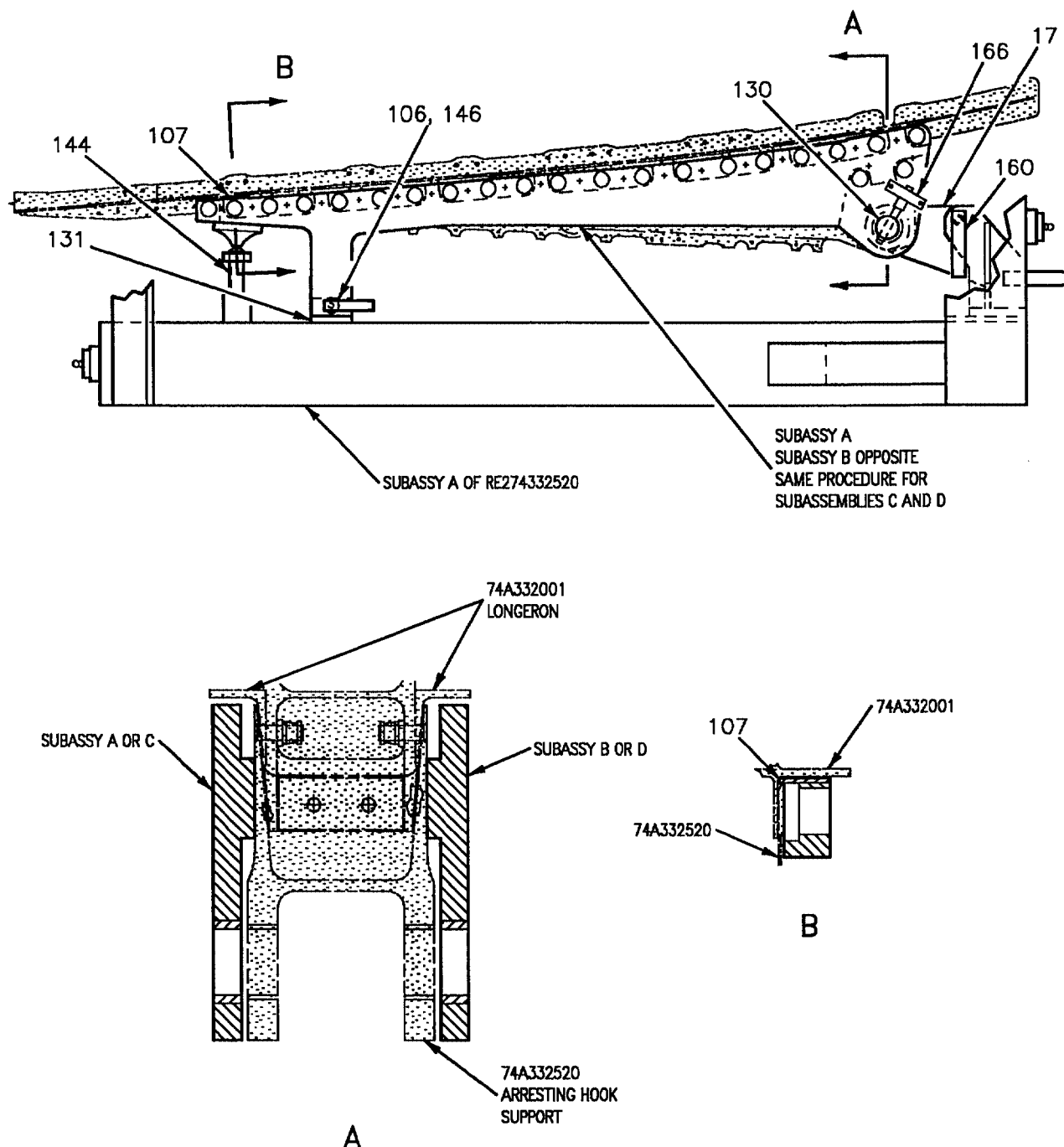


Figure 2. Hole Transfer Frame RE174332520-1 (Sheet 1)

Detail No.	Name	Function
Subassemblies A, B, C, D	Drill plates	Locates mounting holes on arresting hook support
17	Locator	Used to index alignment device to arresting hook support on RE274332520-1
106	Index bushing	Used with 131 and 146 to locate subassemblies A, B, C, D on RE174332520-1
107	Spacer	Locates forward end of subassemblies A, B, C, D with top edge of arresting hook support on RE274332520-1
130	Hinge pin simulator bar	Locates aft end of subassemblies A, B, C, D with arresting hook support on RE274332520-1
131	Locator	Used with 106, 146 to locate subassembly A, B, C, D with alignment devices on RE274332520-1
144	Jack screw	Used to locate 107 with top edge of arresting hook support on RE274332520-1
146	Index-pin	Secures subassy's A, B, C, D to 106, 146, 131 on RE274332520-1
160	L-pin	Used to secure 17 on RE274332520-1
166	Ball lock pin	Used to hold detail 130 in position on RE274332520-1

Figure 2. Hole Transfer Frame RE174332520-1 (Sheet 2)

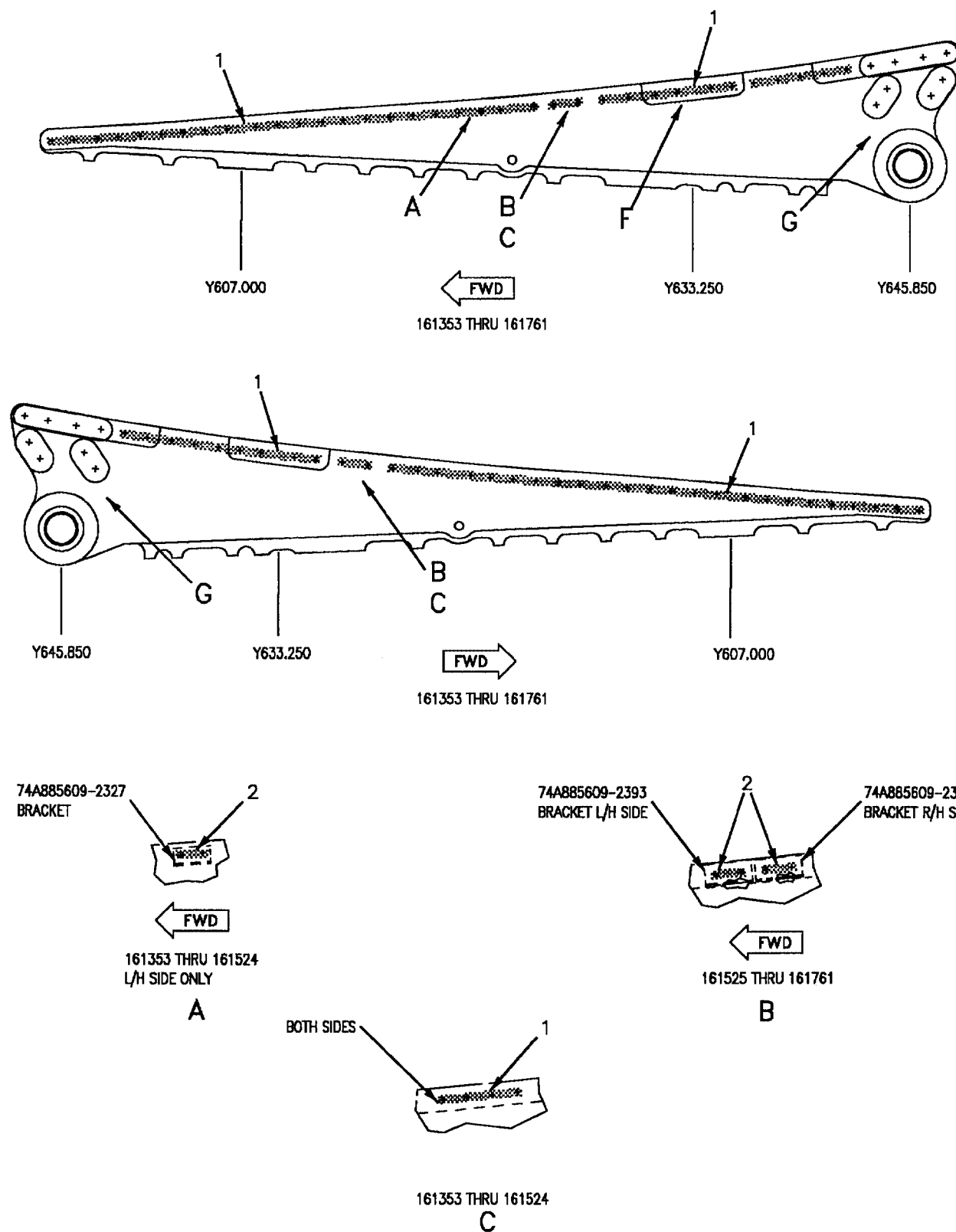


Figure 3. Replacement (Sheet 1)

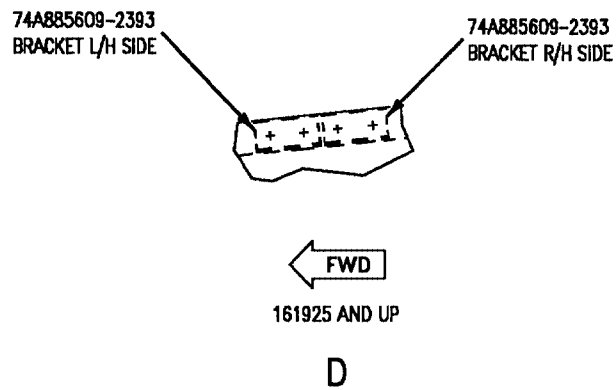
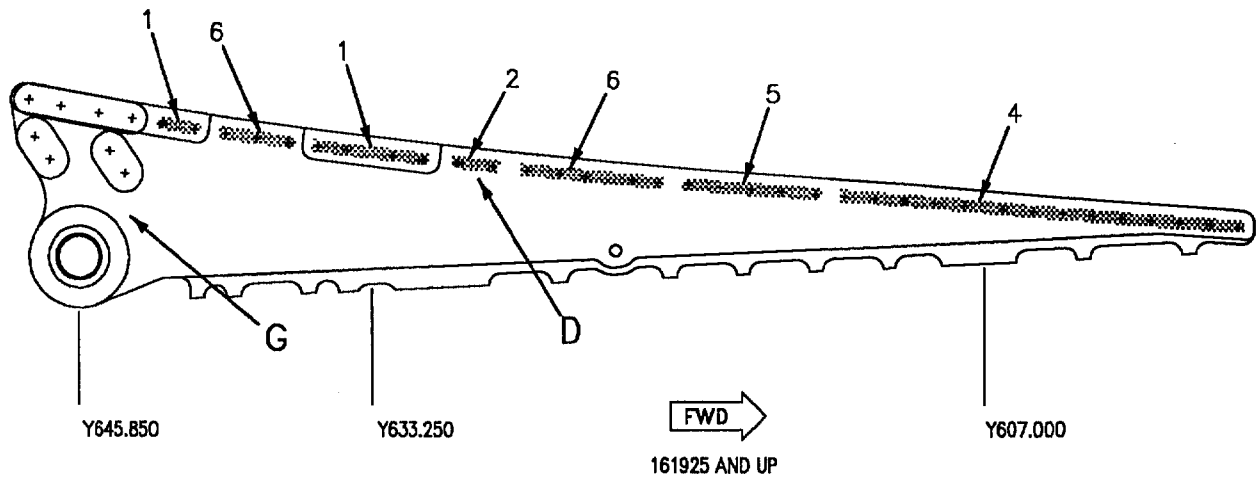
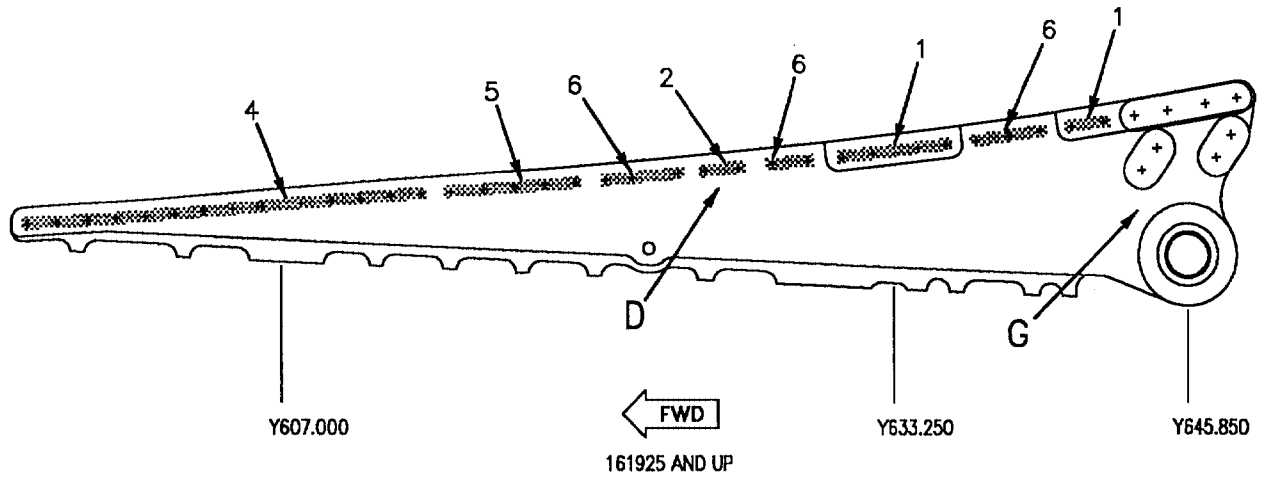


Figure 3. Replacement (Sheet 2)

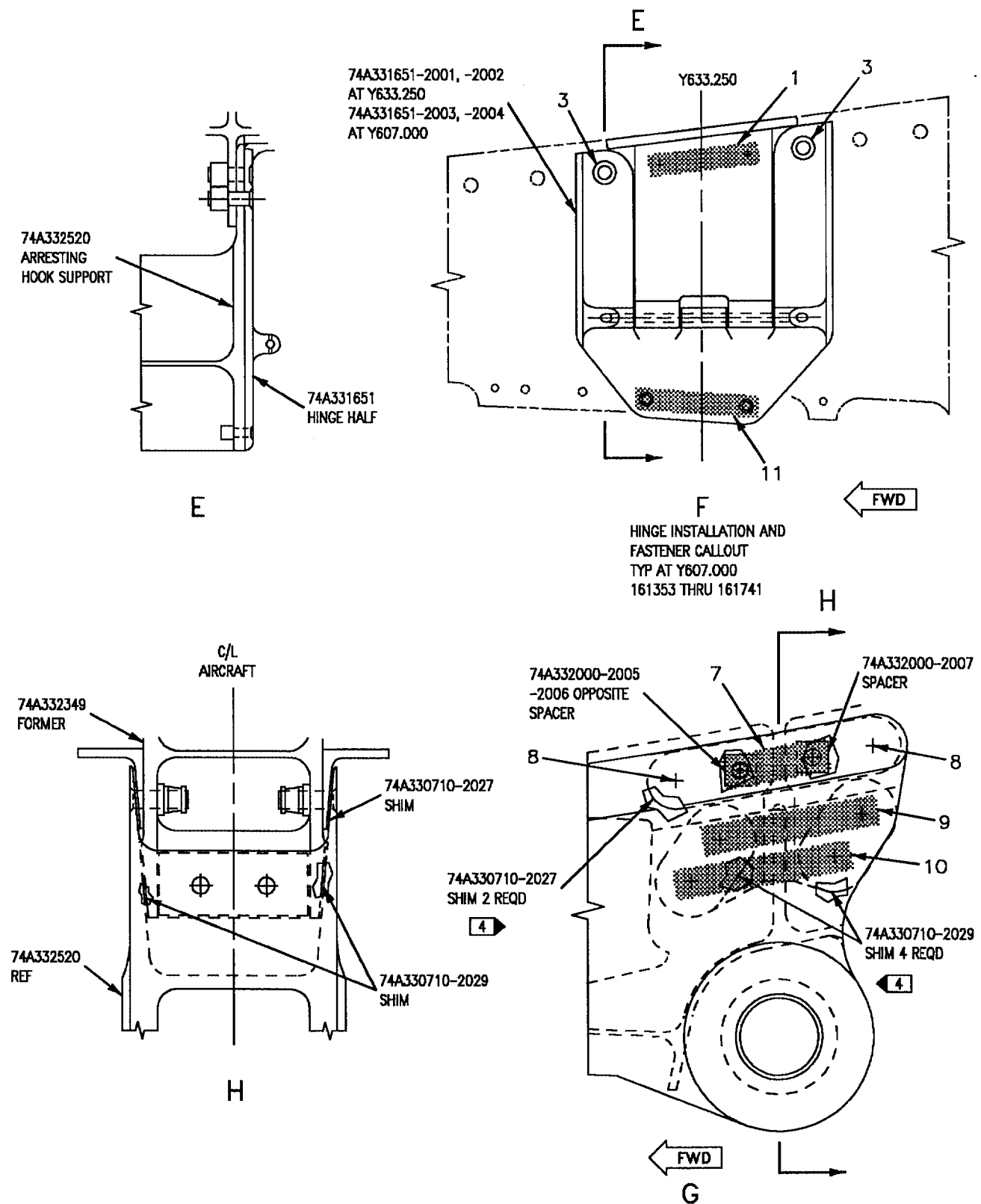


Figure 3. Replacement (Sheet 3)

Idx No.	Eft	Nomenclature	Part Number
1		Pin Collar	HLT51YB10-6 HL570-10MC
2		Pin Collar	HLT51YB10-7 HL570-10MC
3		Pin Collar	HLT51YB10-9 HL570-10MC
4		Pin Collar	HLT51YB6-5 HL570-6MC
5		Pin Collar	HLT51YB8-5 HL570-8MC
6		Pin Collar	HLT51YB10-5 HL570-10MC
7		Pin Collar	HLT51YB12-12 HL570-12MC
8		Pin Collar	HLT51YB12-10 HL570-12MC
9		Pin Collar	HLT51YB12-8 HL570-12MC
10		Pin Collar	HLT51YB12-7 HL570-12MC
11		Pin Collar	HLT51YB6-7 HL570-6MC

Figure 3. Replacement (Sheet 4)

ORGANIZATIONAL AND DEPOT MAINTENANCE**STRUCTURE REPAIR****AFT FUSELAGE STRUCTURE**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Fuselage Engine Bay Heat Shield	WP014 00
Aft Fuselage Sealing	WP023 00
Center Engine Access Door (Door 68)	WP019 00
Combined Aft and Center Engine Access Door (Door 68)	WP019 01
Removal and Installation of Strain Gages	WP036 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Chemical Treatment	WP008 00
Fire and Thermal Barrier Coating	WP009 00
Aft Fuselage Finish System and Markings	WP036 00
Integrated Flight Controls	A1-F18AC-570-300
Stabilator (84MPS529 or 84MPT530)	WP021 00
Stabilator Servocylinder (84A-S015 or 84A-T016)	WP022 00
Nondestructive Inspection	A1-F18AC-SRM-300
Penetrant Method	WP004 00
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation - Engine	WP003 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Fuselage Section - Aft Structure, Assy of	FIG 005 00
Structure Repair, General Information	A1-F18AC-SRM-200
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Introduction	WP002 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Area	WP031 00
Titanium Sheet, Free of Structure and Land Area	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repair	WP034 00
Titanium Sheet Edge Repair	WP035 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
General Manual for Structural Repair	NAVAIR 01-1A-1
Passivation Treatments for Corrosion-Resisting Steel	QQ-P-35

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Record of Applicable Technical Directives

Type/No.	Date	Title and ECP No.	Date Inc.	Remarks
AFC-12	31 Aug 82	Stabilator Actuator Support Anti-Rotation Lug, Rework of (ECP MDA-F/A-18-00106)	1 Nov 82	
AFC-46	20 Jul 84	Horizontal Stabilator Actuator Forward Bearing, Replacement of (ECP MDA-F/A-18-00174)	1 Jul 87	
IAFC-119	12 Jul 89	L/R Forward Engine Mount Support Structure, Replacement of (ECP MDA-F/A-18-00304-	1 Feb 90	
AFC-162	26 Aug 94	Fretting on Y654.85 and Y.657.35 Formers and Spindle; Elimination of (ECP MDA-F/A-18-00391)	15 Dec 95	

1. **STRUCTURE COMPONENTS.** See figure 1
2. Webs, intercostals and other miscellaneous components are indexed on figure 1. See the applicable referenced WP for the remaining structure components.
3. **DAMAGE EVALUATION.** See figures 1 and 2. Damage is classified as negligible and repair-

able. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

4. **Negligible Damage.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the components index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

5. **Repairable Damage.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the components index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

6. **REPAIRS.** Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. Permanent Repairs.

8. Scratches, Nicks, Gouges, or Corrosion. Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum or titanium sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zone A2, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Stop drill ends of crack in repair zone A2.

(2) In repair zone A2, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A2, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A2, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A2, repair cracks in aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A2, install repair one through six. Select repair that can be adapted to the damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zone A2, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zone A2, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A2, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A2, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A2, repair holes in aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A2, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. Edge. In repair zone A2, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) or in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. Dents.

a. In repair zone A2, repair dents free of structure and lands in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage

(2) In repair zone A2, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A2, repair dents across structure and lands in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A2, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A2, repair dents to aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A2, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area A1-F18AC-SRM-500, WP036 00).

13. Support 74A331401, Bearing MS14101 Repair, 161353 THRU 162852 BEFORE F/A-18 AFC 46, Depot Maintenance. See figure 3. This repair is applicable when bearing is loose in its support.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Tool Set - Bearing Installation and Removal	74D110166-1001
Torque Wrench, 0 to 600 Foot-Pounds	-

Materials Required

Nomenclature	Specification or Part Number
Bearing	MS14101-16
Brush, Varnish	H-B-695 Type 1, Class A, Size 1/2
Bushing Stock (Fabricate)	17-4PH 0.060 X 0.800 X 2.00 Diameter
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Sealing Compound	MIL-S-81733, Type 1/2

a. Remove stabilator servocylinder (A1-F18AC-570-300, WP022 00).

b. Restake both outboard and inboard side of bearing per staking instructions as in substeps listed:

(1) Assemble 74D110166 tool for staking. See section C.

NOTE

Bearing staking force required for a fully staked bearing shall be determined by pin travel.

(2) Apply initial torque of 300 to 330 foot-pounds to staking tool.

(3) Using micrometer in tool set, measure pin travel. See section C.

(4) Apply more torque, if required, until pin travel is 0.0067 ± 0.0005 inch.

(5) Remove staking tool.

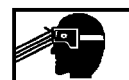
(6) Measure penetration of staking tool into bearing groove. See section A. If staking tool has penetrated to within 0.005 inch from bottom of bearing groove, no more staking is required. Go to substep (7). If staking tool has not penetrated to within 0.005 inch from bottom of bearing groove, do substeps listed:

(a) Repeat substeps (1) through (5), except apply torque until pin travel is 0.0072 ± 0.0005 inch.

(b) Measure penetration of staking tool.

(c) Repeat substeps (1) through (5), as required, by increasing torque on staking tool until tool has penetrated to within 0.005 inch from bottom of bearing groove. Do not exceed 0.0080 inch of pin travel.

(7) Inspect staked bearing to make sure staked lip is against support chamfer, no cracks exist in bearing groove, and bearing rotates freely.



Sealing Compound



Do not get sealant on ball of bearing. Bearing operation may be hindered.

(8) If bearing is tight after staking, apply sealing compound to both faces of bearing race and support. If bearing remains loose or stake has failed or cracked, go to step c. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

(9) Install stabilator servocylinder (A1-F18AC-570-300, WP022 00).



Care should be taken not to cut completely through bearing. May cause damage to support.

c. Remove and scrap existing bearing per substeps listed:

(1) Using 74D110166 tool, cut a groove around portion of bearing swaged over support. See section D. Cut groove approximately 80 percent through swaged lip of bearing.

(2) Press bearing out of support. See section E.

(3) All bearings removed from support shall be scrapped. Under no circumstances shall removed bearings be reused.

d. Measure hole diameter and chamfer in support. If hole is within a tolerance of 1.7500 +0.0005 -0.0000 inch diameter, with a chamfer of 0.050 ±0.005 inch, install new MS14101-16 bearing per substeps listed. If hole diameter or chamfer is not within tolerance, fabricate and install repair bearing, go to step e. In both situations, stake outboard side of bearing first. A good stake on this side will make for better bearing retention.

(1) Apply sealing compound to hole in support with brush. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

(2) Install bearing from outboard side of support. See section F.

(3) Stake outboard side of bearing per substeps b(2) through b(9). See section B.

(4) Stake inboard side of bearing per substeps b(2) through b(9). See section C.

e. Ream hole in support to 1.7812 +0.0005 -0.0000 inch diameter. Surface finish to 63RHR or better.

f. Chamfer both sides of support 0.040 ±0.005 inch x 45° ±30'. Surface finish to 125RHR or better.

g. Clean area of foreign material.

h. Fabricate repair bushing to dimensions shown in detail G.

i. Finish inner surface of repair bushing 63RHR or better.

j. Finish all remaining surfaces of repair bushing 125RHR or better.

k. Heat treat repair bushing 1015° to 1035° F for 4 hours. For heat treatment (NAVAIR 01-1A-1).

l. Cool to room temperature.

m. Penetrant inspect repair bushing (A1-F18AC-SRM-300, WP004 00).

n. Passivate repair bushing per federal specification QQ-P-35.

o. Heat shrink repair bushing evenly over bearing race, temperature not to exceed 600°F. See detail H.

p. Machine repair bearing outer diameter to 1.7812 +0.0000 -0.0005 inch diameter.

q. Surface finish to 63RHR or better.



Isopropyl Alcohol

1

r. Clean repair bearing with clean cheesecloth wet with isopropyl alcohol.

s. Apply sealing compound to hole in support with brush. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

t. Install repair bearing from outboard side of support. See section F.

u. Stake repair bearing per substeps b(2) through b(9). See sections B and C.

v. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

14. Support 74A331401, Bearing KPD16 Repair, 162853 AND UP, ALSO 161353 THRU 162852 AFTER F/A-18 AFC 46; Depot Maintenance. See figure 4. This repair is applicable when bearing is loose or rotating in support.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Bearing Removal and Installation Tool Kit	74D110166-1001
Torque Wrench, 0 to 600 Inch-Pounds	-

Materials Required

Nomenclature	Specification or Part Number
Bearing	KPD16-5
Brush, Varnish	H-B-695, Type 1, Grade A, Size 1/2
Bushing Stock (Fabricate)	17-4PH 0.060 x 0.800 x 2.00 Diameter
Cheesecloth	CCC-C-440, Type 1, Class 1
Chemical Conversion Coating for Aluminum	MIL-C-81706, Class 1A, Form 3
Isopropyl Alcohol	TT-I-735, Grade 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Sealing Compound	MIL-S-8802, Class B-1/2

a. Remove stabilator servocylinder (A1-F18AC-570-300, WP022 00).

b. Bend lock washer tabs securing lock nut away from lock nut.

c. Remove lock nut and lockwasher.

NOTE

All bearings removed from support shall be scrapped. Under no circumstances shall removed bearings be reused.

d. Using 74D110166 tool, press bearing out of support, see section A.

e. Measure hole diameter in support. If hole is within a tolerance of 1.7500 +0.0025 -0.0000 inch diameter, install a new KPD16-5 bearing, go to step u. If hole diameter is not within tolerance, fabricate and install repair bearing, go to step f.

f. Ream hole in support to 1.7812 +0.0005 -0.0000 inch diameter. If hole does not clean up with this size diameter hole, or a split bushing repair was previously installed, a depot engineering disposition is required.

g. Surface finish hole to 63RHR or better.

h. Clean area of foreign material.

i. Fabricate repair bushing to dimensions shown in detail E.

j. Finish inner surface of repair bushing to 63RHR or better.

k. Finish all remaining surface of repair bushing to 125RHR or better.

l. Heat treat repair bushing 1015° to 1035°F for 4 hours. For heat treatment (NAVAIR 01-1A-1).

m. Cool to room temperature.

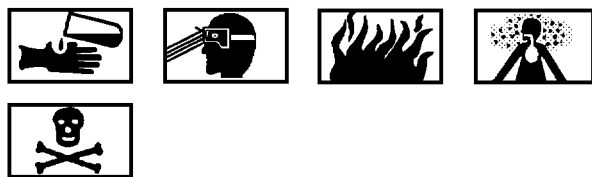
n. Penetrant inspect repair bushing (A1-F18AC-SRM-300, WP004 00).

o. Passivate repair bushing per federal specification QQ-P-35.

p. Heat shrink repair bushing evenly over KPD16-5 bearing, temperature not to exceed 600°F, see detail D.

q. Machine repair bearing outer diameter to 1.7812 +0.0000 -0.0005 inch diameter.

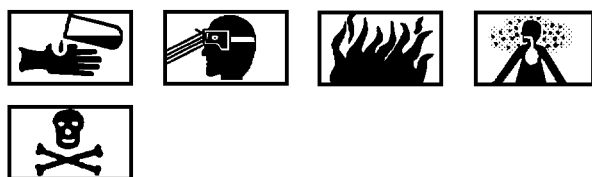
r. Surface finish repair bearing outer diameter to 63RHR or better.



Isopropyl Alcohol

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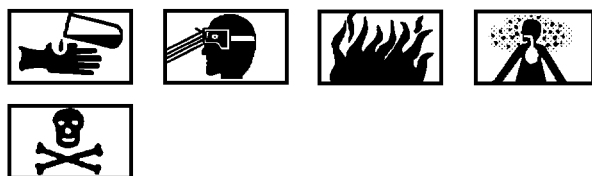
s. Clean repair bearing with clean cheesecloth wet with isopropyl alcohol.



Conversion Coating

9

t. Chemical conversion coat, using brush, with MIL-C-81706 class 1A outside diameter of repair bearing and inside diameter of hole in support. Chemical treatment (A1-F18AC-SRM-500, WP008 00).



Sealing Compound

6

u. Apply MIL-S-8802 class B-1/2 sealing compound to outer surface of repair bearing, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

v. Install bearing from outboard side of support, see section B.

w. Press bearing into support until the 74D111291-2051 guide contacts the 74D111291-2055 housing.

x. Remove the 74D111291-2051 guide, see sections B and C.

y. Press bearing into support until bearing flange is firmly seated against support outer surface.

z. Remove 74D110166 bearing installation tool.

aa. Remove sealing compound from threads of bearing and both surfaces of support with clean cheesecloth wet with isopropyl alcohol.



Failure to install lockwasher with key and tabs projecting away from support will cause improper torquing of lock nut.

ab. Install lockwasher over bearing threads, with key and tabs projecting away from support, detail F.

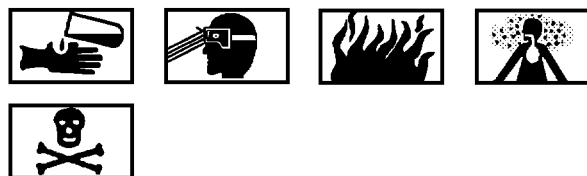
ac. Install lock nut and torque 250 to 350 inch-pounds.

NOTE

Do not back off lock nut to engage lockwasher tabs.

ad. Bend a minimum of any two tabs on lockwasher into mating slots on lock nut.

ae. Check for gaps between lockwasher and support, and flange of bearing and support; gap shall not exceed 0.005 inch or extend around 50 percent of circumference. If installation is within tolerance go to step af. If installation is not within tolerance, a depot engineering disposition is required.



Primer

10

af. Brush with MIL-P-23377 primer coating a peripheral seal over repair area as shown in section F.

ag. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

15. **REPLACEMENT.**

16. Spindle assembly, 74A331802, when removed and reinstalled on same aircraft is organizational maintenance. When removed and replaced with a new spindle assembly (undrilled) is depot maintenance. Interchanging spindle assembly between aircraft or left and right side requires a depot engineering disposition. For spindle fasteners (A1-F18AC-SRM-440, FIG005 00).

17. **Spindle Assembly 74A331802 Removal And Installation.** See figure 5.**Support Equipment Required**

Nomenclature	Part Number or Type Designation
Aft/Center Fuselage Stand	E91353
Aircraft Structure Repair Tool Kit	74D110325-1001
Torque Wrench, 0 to 2400 Inch-Pounds	-

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Gloves, Cotton Work, Men's	MIL-G-3866, Type 1
Isopropyl Alcohol	TT-I-735, Grade 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-81733, Type I-1/2, II-2

18. **Removal.**

a. Remove horizontal stabilator (A1-F18AC-570-300, WP021 00).

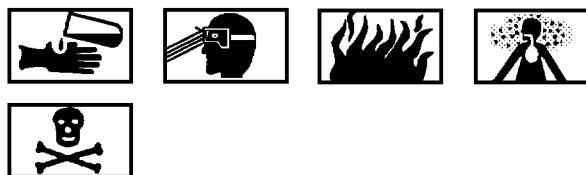
b. Remove engine (A1-F18AE-270-300, WP003 00).

c. Remove door 71 (A1-F18AC-LMM-010).

d. Remove strain gages (WP036 00).

e. Remove fasteners attaching 74A331802 spindle assembly (spindle) to aircraft.

f. Remove spindle, keep shims if applicable for reinstallation of repaired spindle on same aircraft.



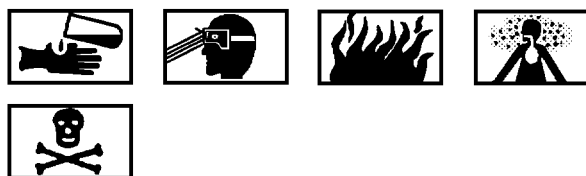
Isopropyl Alcohol

1

g. Clean area of sealing compound with plastic scraper and clean cheesecloth moistened with isopropyl alcohol.

19. Installation. For repaired spindle being reinstalled on same aircraft go to Installation of Repaired Spindle On Same Aircraft, Organizational Maintenance, below, this WP; for new replacement spindle go to Installation of Replacement Spindle, Depot Maintenance, below, this WP.

20. Installation of Repaired Spindle On Same Aircraft, Organizational Maintenance. See figure 5.



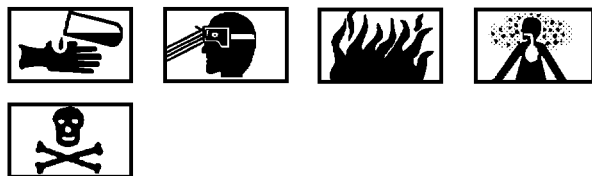
Isopropyl Alcohol

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NOTE

After surfaces are cleaned, do not touch with bare hands. Wear cotton gloves.

a. Clean electrical bonding surfaces on spindle, formers and attaching fasteners with clean cheesecloth moistened with isopropyl alcohol, wipe dry with clean dry cheesecloth while isopropyl alcohol is wet.



Sealing Compound

8

b. Fay surface real mating parts with MIL-S-81733 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

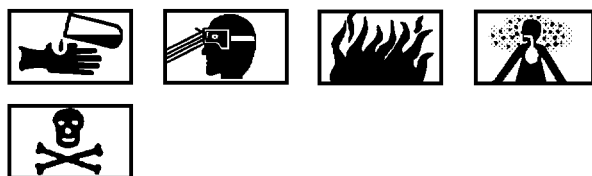
c. Install spindle with thickest mounting flange in the forward position, gap not to exceed 0.003 +0.000 -0.003 inches between spindle and formers, view B.

d. Gap between spindle flanges and inboard former flanges shall be a minimum of 0.010 inch, view C.

e. Install shims if applicable.

f. Align all mating holes.

g. Remove excess sealing compound.



Primer

10

h. Apply one coat of MIL-P-23377 primer to inner surface of fastener holes.

(1) On Bunos 161924 thru 163175 incorporate AFC-162 if not yet incorporated.

i. Install fasteners while primer is wet, for fasteners (A1-F18AC-SRM-440, FIG005 00).

j. Install 74A330010-2005 washer with edge radius face contacting 74A331401 support.

k. Wipe electrical bonding surfaces and bolt threads with clean cheesecloth moistened with isopropyl alcohol to remove primer, wipe dry with clean dry cheesecloth while isopropyl alcohol is still wet.

l. Temporarily install washers and hand tighten nut; add or remove washers under nut to keep nut

from bottoming out on shank of bolt, or to align nut with cotter pin hole in bolt as required.

m. Torque nuts 1660 to 1980 inch-pounds. Insert cotter pins on Bunos 161924 thru 163175.

n. Using filleting tool, remove squeezed out sealing compound leaving a fillet seal around periphery of spindle, view C.

o. Apply with brush a coating of MIL-S-81733 sealing compound over entire surface of exposed fasteners, view B.

p. Coat forward lower two fasteners with fire and thermal barrier coating, preparation and application (A1-F18AC-SRM-500, WP009 00).

q. Install strain gages (WP036 00).

r. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

s. Install door 71 (A1-F18AC-LMM-010).

t. Install engine (A1-F18AC-270-300, WP003 00).

u. Install horizontal stabilator (A1-F18AC-570-300, WP021 00).

v. On Bunos 161924 through 163175, enter the current flight hours and add the following entry in the aircraft logbook miscellaneous/history section, OPNAV form 4790/25A: Perform retorque of Horizontal Stabilator Spindle to fuselage former attachment fastener nuts between 400 and 600 flight hours from current _____ flight hours.

21. Installation of Replacement Spindle, Depot Maintenance. See figure 5. Procedures will replace damaged spindle with new undrilled spindle.

a. Measure space between formers for comparison to width of spindle using approved precision instruments.

b. If replacement spindle is larger than space between formers, machine equal amounts off both flanges to allow a maximum gap of 0.003 inches between spindle and formers. Finish to 63RHR if required. If replacement spindle is smaller than space between formers, use shims to achieve allowable maximum gap of 0.003 inches between spindle and formers.

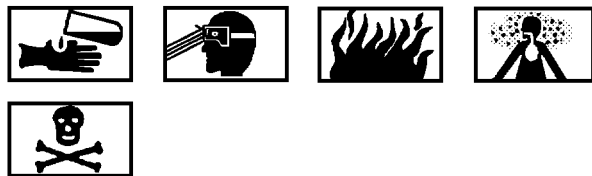
c. Refinish machined surfaces if required (A1-F18AC-SRM-500, WP036 00).

NOTE

To enable clamping of spindle to formers, partial removal of the 74A330741 web will be required.

d. Remove fasteners as required from 74A330741 web, starting at bottom row of fasteners and working upward, peeling web away from formers to allow clamping of spindle to formers, detail C.

e. Remove fay surface sealing compound, using plastic scraper, from formers and 74A330741 web.



Isopropyl Alcohol

1

f. Clean formers and 74A330741 web mating surfaces with clean cheesecloth moistened with isopropyl alcohol.

g. Install and optically align spindle to the center point of the inboard bushing, $X \pm 40.709 \pm 0.015$, $Y651.600 \pm 0.015$, $Z99.361 \pm 0.015$ and the center point of the outboard bushing, $X \pm 55.100 \pm 0.030$, $Y651.600 \pm 0.030$, $Z98.858 \pm 0.030$ using reference rivets at Y600.227, Z99.740, and Y600.581, Z93.260. The inboard bushing outside diameter is 4.8890 +0.0000 -0.0005 inches, the outboard bushing outside diameter is 1.9990 +0.0000 -0.0005 inches, sheet 1.

h. Clamp spindle in place.

i. Insert traveler bushings, from 74D110325-1001 aircraft structural repair tool kit, into former holes.

NOTE

If space does not allow back drilling of undersize holes on upper former flange of spindle, fabricate template from damaged spindle indexed to the lower two forward holes.

j. Backdrill undersize close tolerance holes into spindle using traveler bushings.

k. Remove traveler bushings.

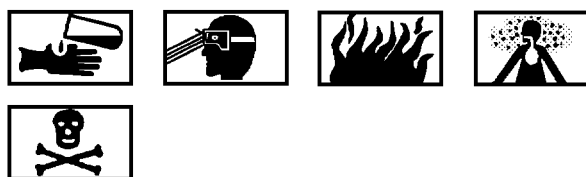
l. Remove clamps securing spindle.

m. Remove spindle.

n. If required, using template drill upper two forward undersize holes in spindle.

o. Drill all close tolerance holes in spindle to $0.6245 \pm 0.0022 -0.0000$ inch diameter using jig bore machine.

p. Deburr all holes.



Sealing Compound

8

q. Fay surface seal 74A330741 web and mating surfaces with MIL-S-81733 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

r. Install fasteners as required in 74A330741 web set wet with MIL-S-81733 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00). For fasteners go to 74A330741 web replacement (WP014 00).

s. Remove excess sealing compound from 74A330741 web with clean cheesecloth moistened with isopropyl alcohol.

NOTE

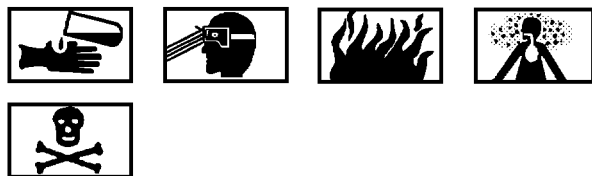
After surfaces are cleaned, do not touch with bare hands. Wear clean cotton gloves.

t. Clean electrical bonding surfaces on spindle, formers, and attaching fasteners with clean cheesecloth moistened with isopropyl alcohol, wipe dry with clean dry cheesecloth while isopropyl alcohol is still wet.

u. Fay surface seal mating surfaces with MIL-S-81733 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

v. Install spindle and align mounting holes.

w. Remove sealing compound from mounting holes.



Primer

10

x. Apply one coat of MIL-P-23377 primer to inner surface of the fastener holes.

y. Install 74A330010 washer under head of fastener on aft four mounting holes with edge radius face contacting spindle, for fasteners (A1-F18AC-SRM-440, FIG 005 00).

(1) On Bunos 161924 thru 163175, incorporate AFC-162 if not yet incorporated.

z. Install fasteners while primer is still wet.

aa. Wipe electrical bonding surfaces and bolt threads with clean cheesecloth moistened with isopropyl alcohol to remove primer, wipe dry with clean dry cheesecloth while isopropyl alcohol is still wet.

ab. Temporarily install washers and hand tighten nut; add or remove washers under nut to align nut with cotter pin hole in bolt.

ac. Torque nuts to 1660-1980 inch-pounds. Insert cotter pins on Bunos 161924 thru 163175.

ad. Fillet seal periphery of spindle to formers with MIL-S-81733 sealing compound, fillet sealing (A1-F18AC-SRM-200, WP011 00), view C.

ae. Wipe fasteners with clean cheesecloth moistened with isopropyl alcohol, wipe dry with clean, dry cheesecloth while isopropyl alcohol is still wet.

af. Apply with brush MIL-S-81733 sealing compound to entire head and nut area, completely covering fasteners, view B.

ag. Coat forward lower two fasteners with fire and thermal barrier coating, preparation and application (A1-F18AC-SRM-500, WP009 00).

ah. Install strain gages (WP036 00).

ai. Repair or replace firewall sealing and fire and thermal barrier coating as required (WP023 00).

aj. Refinish repaired area (A1-F18AC-SRM-500, WP036 00)

ak. Install engine (A1-F18AC-270-300, WP003 00).

al. Install door 71 (A1-F18AC-LMM-010).

am. Install horizontal stabilator (A1-F18AC-570-300, WP021 00).

an. On Bunos 161924 through 163175, enter the current flight hours and add the following entry in the aircraft logbook miscellaneous/history section, OPNAV form 4790/25A: Perform retorque of Horizontal Stabilator Spindle to fuselage former attachment fastener nuts between 400 and 600 flight hours from current _____ flight hours.

22. SPINDLE ATTACH FASTENER NUT RETORQUE, BUNOS 161924 AND UP. This operation is performed at organizational level or above and is required between 400 and 600 flight hours after installation or reinstallation of stabilator attach hardware or as required by applicable work packages and/or technical directives or aircraft logbook entries.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Breaker Bar, 1/2 inch.	SN15A
Drive Adapter, 3/8 inch. to 1/2 inch.	A2A
Spline Socket, #24 3/8 inch. Drive	SES241
Spline Socket, #30 1/2 inch. Drive	SES301
Spline Torque Adapter, #24, 1/2 inch. Drive	SRES24
Spline Torque Adapter, #30, 3/8 inch. Drive	FRES24
Torque Wrench, 0 - 2400 Inch Pounds	-

Materials Required

NOTE

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Cotter Pin	MS24665-372
Dry Cleaning Solvent	P-D-680
Korotherm	MMS-445
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-81733, Type I-1/2, II-2

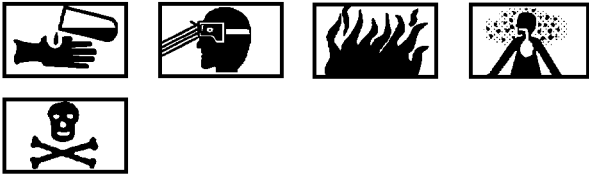
- a. Remove engines (A1-F18AC-270-300, WP 003 00).
- b. Remove Doors 71, 72, 73, and 74 (A1-F18AC-LMM-010).
- c. Remove sealant/thermal barrier coating from spindle attachment nuts with phenolic scraper.



Nuts must be loosened and retorqued one at a time to maintain spindle preload.

- d. Remove and discard MS24665-372 cotter pin.

- e. Secure bolt head with SES301 spline socket to prevent head from turning, then loosen the nut and remove nut and washers.

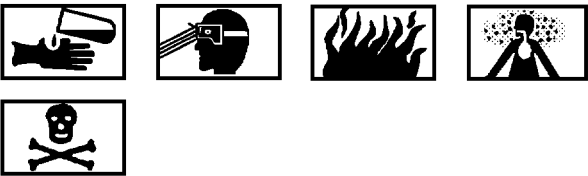


Dry Cleaning Solvent 11

- f. Wipe nut, washers and the corresponding seating area on the spindle clean with P-D-680 solvent.

Introducing washers out of defined configuration is unauthorized. Secure bolt head with #30 spline socket while torquing ST3M797C10 nut to required torque. SRES24 or FRES24 torque adapter is required for torquing the nuts at the 74A331401 bootstrap. It is important to maintain a 90 degree angle between the torque wrench handle and the adapter to obtain the correct torque level at the nut.

g. Reinstall nut and washers and torque to 1660 inch-pounds. Install SRES24 or FRES24 Torque Wrench Adapter at 90 degrees to the torque wrench handle for use on the bootstrap attach nuts. Torque the ST3M797C10 nuts at the bootstrap maintaining the 90 degrees between the torque wrench and the adapter at 74A331401 bootstrap to 1660 inch-pounds. Torque the other ST3M797C10 nuts using SES241 spline socket to 1660 inch-pounds. If fastener cotter key hole and castilated nut opening do not align, increase torque level until alignment is reached but do not exceed 1980 inch-pounds. Install MS24665-372 cotter pin when alignment is reached.



Sealing Compound 8

- h. Using MIL-S-81733 sealant, seal over nut, washer, and bolt head as shown in Figure 5, sheet 2.



Korotherm 12

- i. Apply MMS-455 (Korotherm) to the area of the two lower nuts on the Y645.85 former as shown in Figure 5, sheet 2.

- j. Install Doors 71, 72, 73, and 74 (A1-F18AC-LMM-010).

- k. Install engines (A1-F18AC-270-300, WP 003 00).

Table 1. Negligible Damage Limits













Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Web Zone A2	0.071	0.002	0.002	100%		NA
Fig 1 (4)	Intercostal Zone A2	0.020	0.001	0.001	100%	0.010	NA
Fig 1 (5)	Intercostal Zone A2	0.020	0.001	0.001	100%	0.010	NA
Fig 1 (8)	Ramp Zone A2 Zone A2	0.025	0.001	0.001	100%		NA
		0.025	0.001	0.001	100%	0.013	NA
Fig 1 (9)  	Spindle Shaft Base	All	0.0006	0.0006	5%		NA
		All	0.0006	0.0006	100%		NA
Fig 1 (14)	Intercostal Zone A2 Zone A2	0.020	0.001	0.001	100%		NA
		0.020	0.001	0.001	100%	0.010	NA
Fig 1 (12)	Intercostal Zone A2 Zone A2	0.020	0.001	0.001	100%	0.010	NA
		0.020	0.001	0.001	100%		NA
Fig 1 (18)	Intercostal Zone A2 Zone A2	0.063	0.002	0.002	100%		NA
		0.063	0.002	0.002	100%	0.032	NA
Fig 1 (19)	Intercostal Zone A2 Zone A2	0.063	0.002	0.002	100%		NA
		0.063	0.002	0.002	100%	0.032	NA
Fig 1 (20)	Support Zone B2	All	0.0006	0.0006	100%		NA
Fig 1 (21)	Support Zone A2 Zone A2	0.094	0.002	0.002	100%		NA
		0.094	0.002	0.002	100%	0.047	NA

Table 1. Negligible Damage Limits (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (22) 1	Intercostal Zone A2 Zone A2	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	0.032 5	NA NA
Fig 1 (23)	Pin 2	0.250	0.0006	0.0006	100%	5	NA
Fig 1 (24)	Base 2	0.137	0.0006	0.0006	100%	5	NA
	2	0.250	0.0006	0.0006	100%	5	NA
	2	0.375	0.0006	0.0006	100%	5	NA
Fig 1 (25)	Stop 2	All	0.0006	0.0006	100%	5	NA
Fig 1 (28) 3 4	Support 2						
	Zone D3	0.797	0.0006	0.0006	100%	5	NA
	Zone C3	All	0.0006	0.0006	100%	5	NA
	Zone B3	0.150	0.0006	0.0006	100%	5	NA
	Zone B3	0.188	0.0006	0.0006	100%	5	NA
	Zone B3	0.125	0.0006	0.0006	100%	5	NA
	Zone B3	0.216	0.0006	0.0006	100%	5	NA
	Zone B3	0.250	0.0006	0.0006	100%	5	NA
	Zone B3	0.336	0.0006	0.0006	100%	5	NA
	Zone B3	0.250	0.0006	0.0006	100%	5	NA

NOTES

- 1 Outboard and aft legs.
 2 Parts exceeding repairable damage limits in table 2 require a depot engineering disposition.
 3 Web.
 4 Vertical member.
 5 None allowed.

Table 2. Repairable Damage Limits After Blending
























Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (1)	Web Zone A2	0.071	0.045	0.014	0.014	40%	0.014	40%
Fig 1 (4)	Intercostal Zone A2	0.020	0.045	0.004	0.004	30%	0.004	30%
Fig 1 (5)	Intercostal Zone A2	0.020	0.045	0.004	0.004	40%	0.004	40%
Fig 1 (8)	Ramp Zone A2 Zone A2	0.025	0.045	0.005	0.005	10%	0.005	10%
		0.025	0.045	0.005	0.005	50%	0.005	50%
Fig 1 (9) 	Spindle Shaft Base	 All	 0.025	 0.035	 0.035	 10%	 0.035	 10%
Fig 1 (14)	Intercostal Zone A2 Zone A2	0.020	0.045	0.004	0.004	10%	0.004	10%
		0.020	0.045	0.004	0.004	40%	0.004	40%
Fig 1 (15)	Intercostal Zone A2 Zone A2	0.020	0.045	0.004	0.004	40%	0.004	40%
		0.020	0.045	0.004	0.004	10%	0.004	10%
Fig 1 (18)	Intercostal Zone A2 Zone A2	0.063	0.060	0.013	0.013	10%	0.013	10%
		0.063	0.060	0.013	0.013	50%	0.013	50%
Fig 1 (19)	Intercostal Zone A2 Zone A2	0.063	0.060	0.013	0.013	10%	0.013	10%
		0.063	0.060	0.013	0.013	50%	0.013	50%
Fig 1 (20)	Support Zone B2	All	0.050	0.020	0.020	20%	0.020	20%
Fig 1 (21)	Support Zone A2 Zone A2	0.094	0.050	0.019	0.019	10%	0.019	10%
		0.094	0.045	0.019	0.019	30%	0.019	30%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (22) 	Intercostal							
	Zone A2	0.063	0.060	0.013	0.013	50%	0.013	50%
	Zone A2	0.063	0.060	0.013	0.013	10%	0.013	10%
Fig 1 (23)	Pin 	0.250	0.0006	0.0006	0.0006	100%	0.0006	100%
Fig 1 (24)	Base							
		0.137	0.050	0.027	0.027	100%	0.027	100%
		0.250	0.010	0.050	0.050	100%	0.050	100%
		0.375	0.0006	0.075	0.075	100%	0.075	100%
Fig 1 (25)	Stop 	All	0.020	0.027	0.027	100%	0.027	100%
Fig 1 (28)  	Support 							
	Zone D3	0.797	0.0006	0.0006	0.0006	100%	0.0006	100%
	Zone C3	All	0.050	0.010	0.010	20%	0.010	20%
	Zone B3	0.150	0.090	0.025	0.025	30%	0.025	30%
	Zone B3	0.188	0.090	0.025	0.025	30%	0.025	30%
	Zone B3	0.125	0.090	0.025	0.025	30%	0.025	30%
	Zone B3	0.216	0.190	0.043	0.043	30%	0.043	30%
	Zone B3	0.250	0.190	0.043	0.043	30%	0.043	30%
	Zone B3	0.336	0.190	0.043	0.043	30%	0.043	30%
	Zone B3	0.250	0.030	0.050	0.050	10%	0.050	10%

NOTES

-  Outboard and aft legs.
-  Parts exceeding repairable damage limits require a depot engineering disposition.
-  Web.
-  Vertical member.
-  None allowed.
-  Damage exceeding negligible damage limits requires a depot engineering disposition.

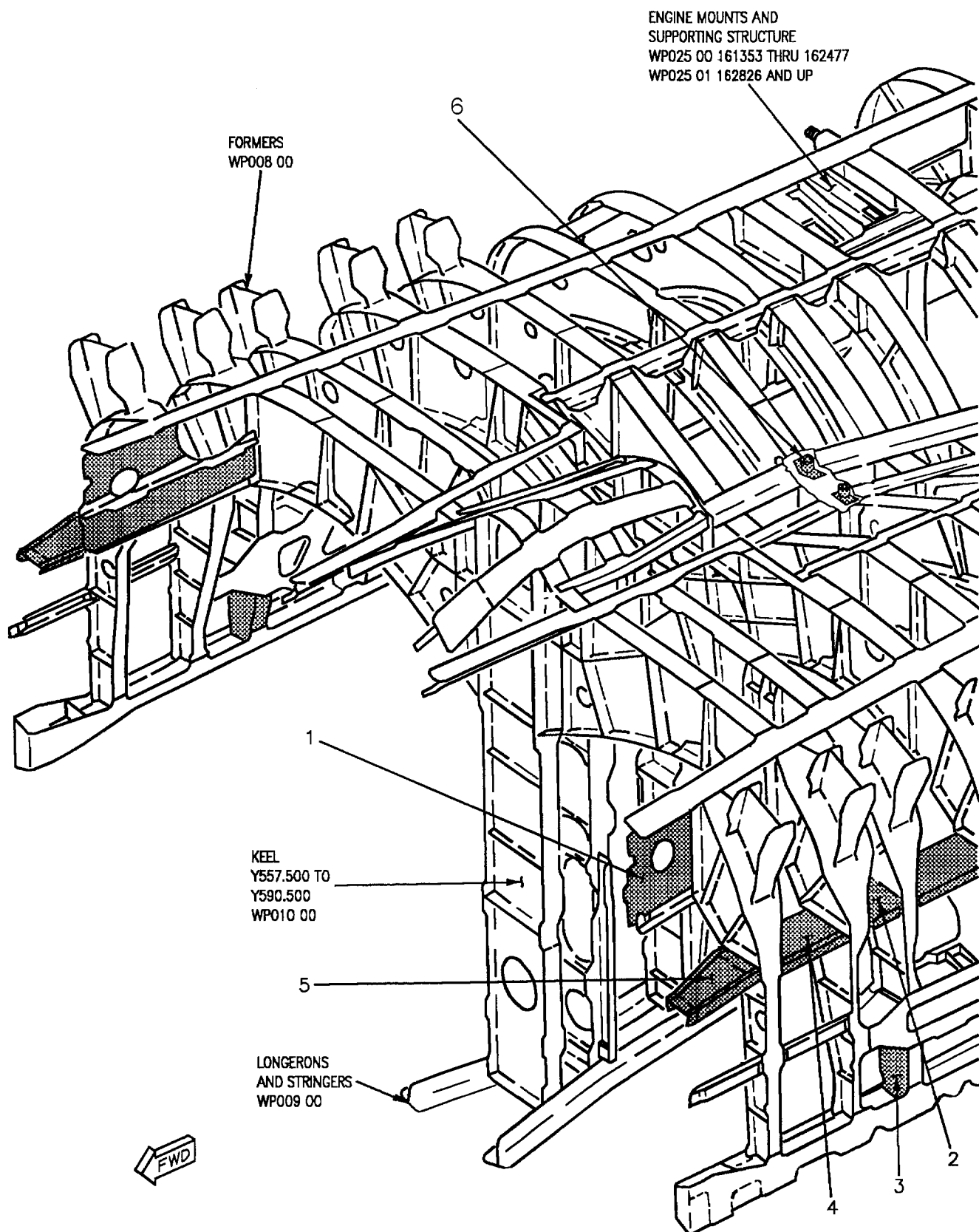


Figure 1. Components Index (Sheet 1)

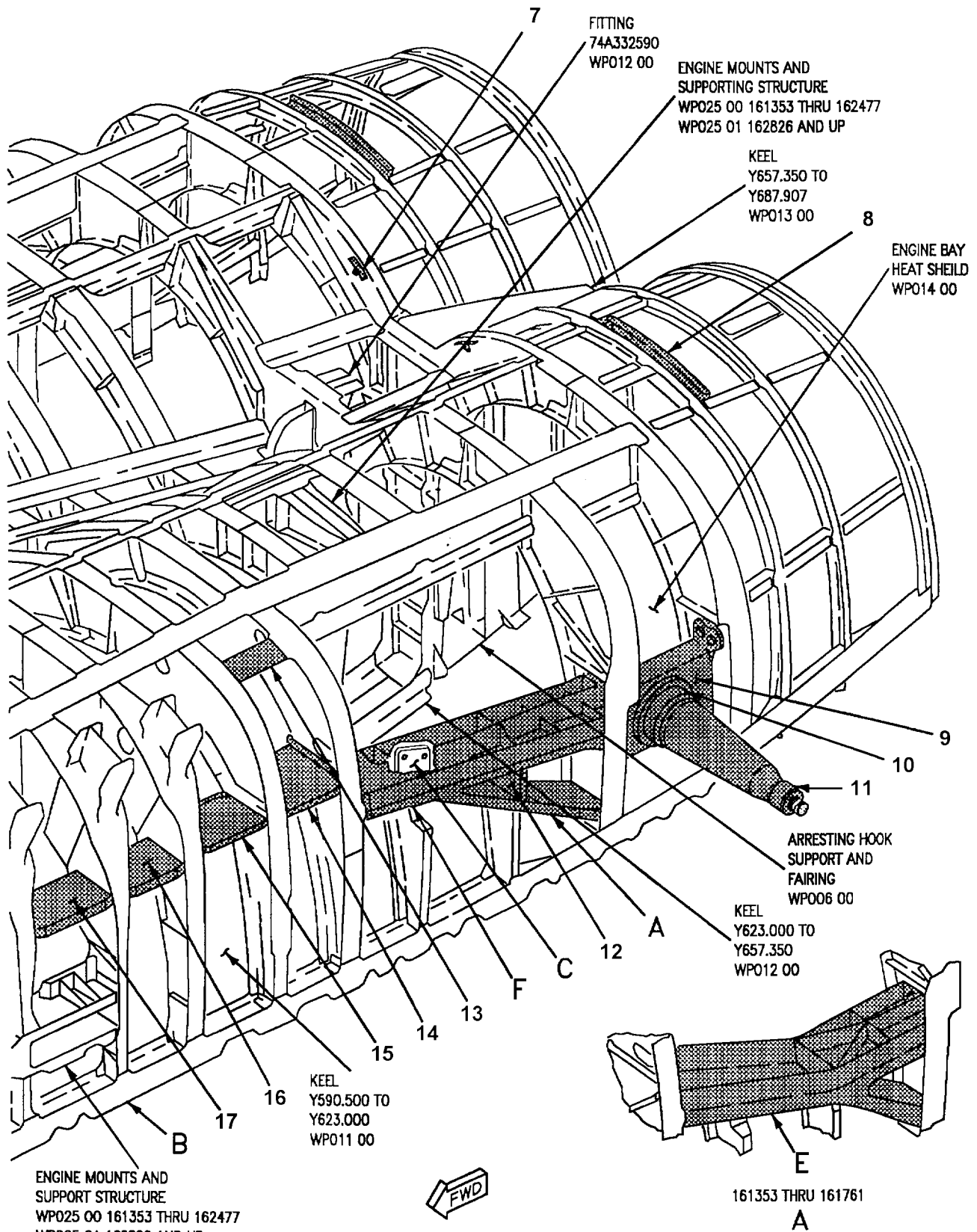
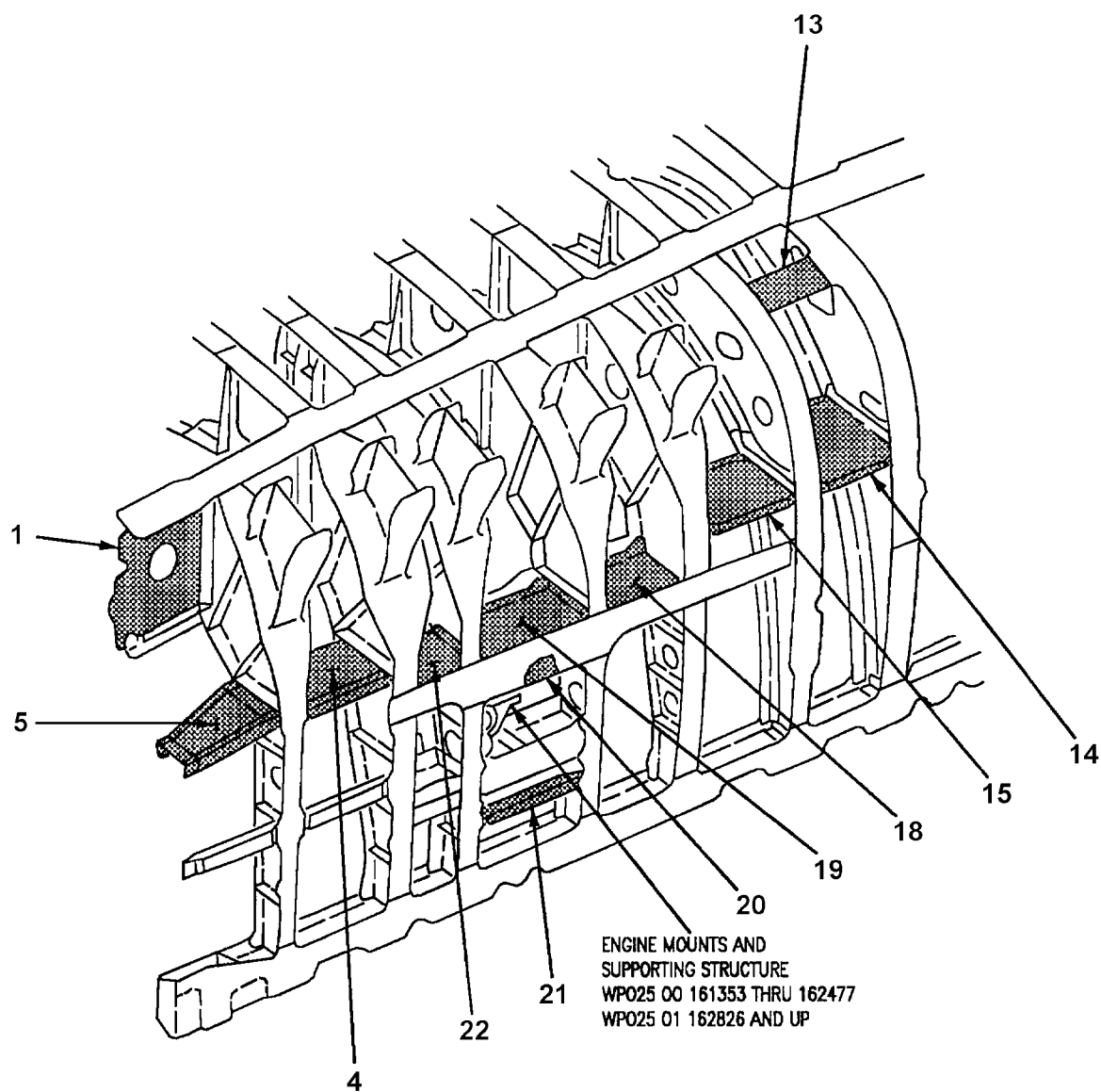


Figure 1. Components Index (Sheet 2)



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Figure 1. Components Index (Sheet 3)

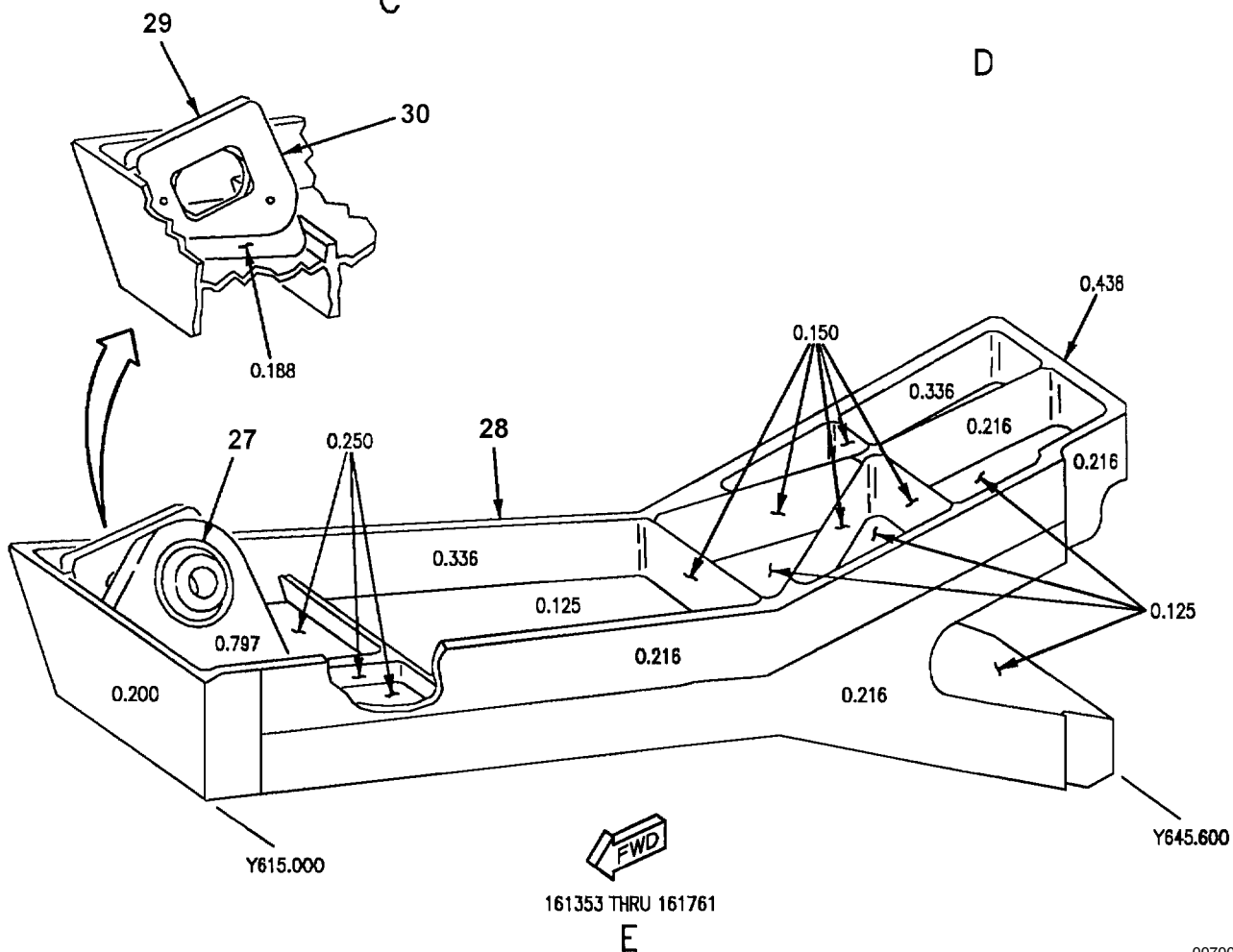
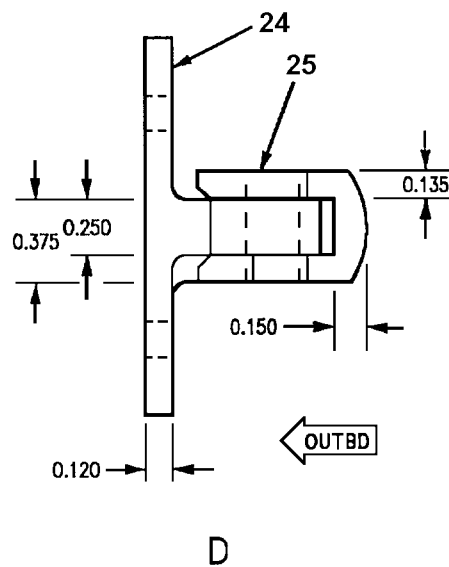
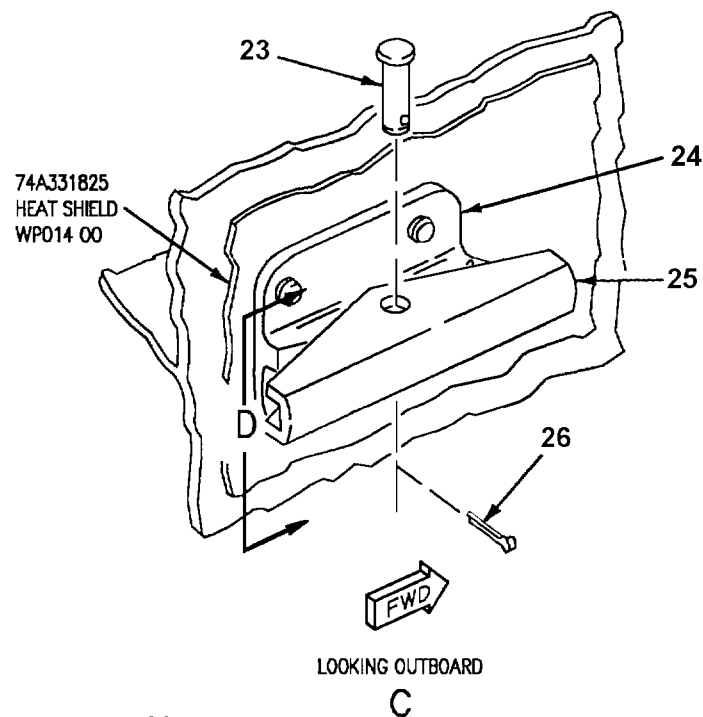


Figure 1. Components Index (Sheet 4)

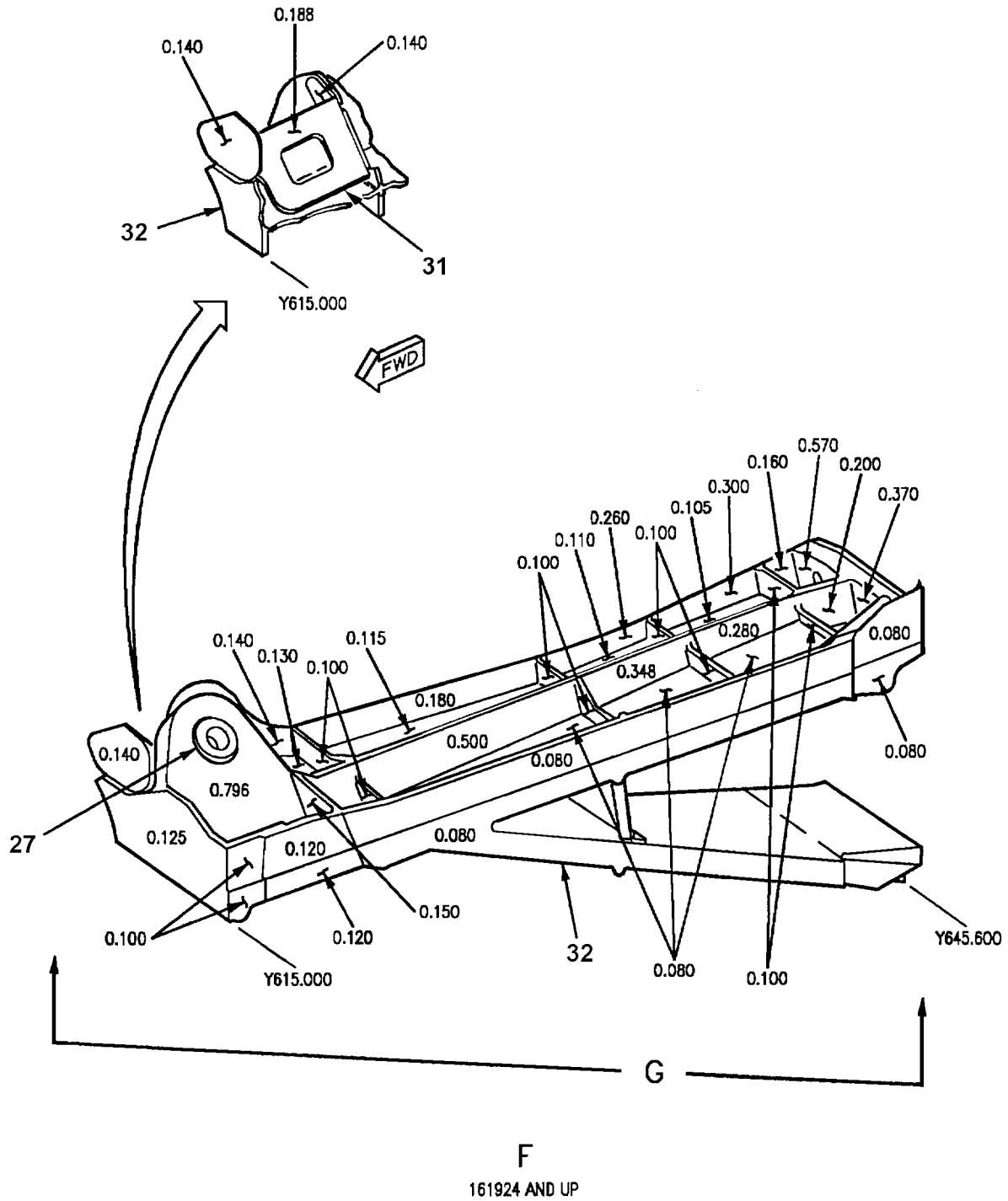
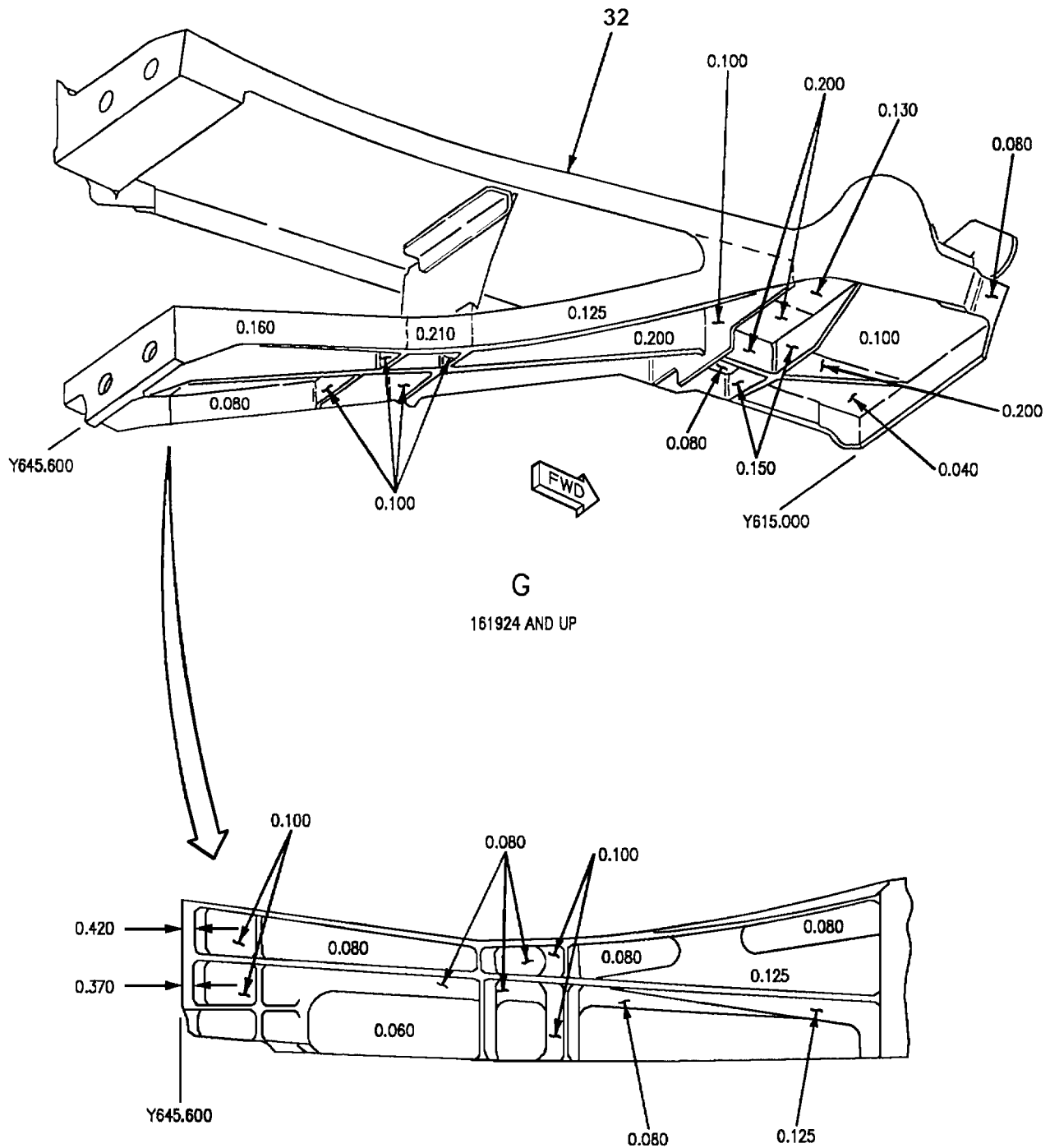


Figure 1. Components Index (Sheet 5)



Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Web 74A331113-2007 74A331113-9001 74A331113-2017 54A331113-2019 74A331113-9005 74A331113-9007 74A331113-2023 74A331113-2025	0.071 Sheet	7075-T6 Al Aly
L	29			
R	30			
L	31			
R	31			
L	51			
R	51			
L	52			
R	52			
2	41	Closeout 74A331179-2007, -2008	0.016 Sheet	6Al-4V Ti Anl
3	57	Former 74A331323-2003, -2004 74A093145-2001, -2002	0.063 Sheet 0.100 Sheet	7075-T62 Alclad 6Al-4V Ti Anl
4	9	Intercostal 74A330820-2009, -2010 74A330820-2011, -2012 74A330820-2013, -2014 74A330820-2015, -2016 74A330820-2017, -2018	0.020 Sheet	6Al-4V Ti Anl
5	15	Intercostal 74A330843-2023, -2024 74A330843-2029, -2030	0.020 Sheet	6Al-4V Ti Anl
6	14			
6		Support 74A360220-2004, -2003	Casting	A356-T61 Al Aly
7	49	Bracket 74A360219-2002, -2001 74A360219-2006, -2005	Forging	7075-T73 Al Aly
8	50			
8	16	Ramp 74A333892-2001, -2002	0.025 Sheet	2024-T72 Alclad
	17	Stringer 74A333891-2001, -2002	0.032 Sheet	7075-T6 Alclad
9	56	Spindle 74A331800-2003 74A331800-2007 74A331800-2013 74A331800-2015	Hand Forging Die Forging	HP9-4-20 Steel AF1410 Steel
	1			
	2			
	47			
	46			
10		Bushing 56 74A331802-2003	5.437 Hollow Bar	CA-172 Beryllium Copper
11		Bushing 56 74A331802-2001	2.375 Hollow Bar	CA-172 Beryllium Copper

Figure 1. Components Index (Sheet 7)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
12	34 40	Former 74A331340-2005, -2006 74A331340-2021, -2022	0.050 Sheet	7075-T62 Al Aly
13	39 41	Support 74A331119-2005, -2006 74A331119-2011, -2012	1MA160D06-10168 Extr	7075-T76511 Al Aly
14	15 14	Intercostal 74A330843-2027, -2028 74A330843-2033, -2034	0.020 Sheet	6Al-4V Ti Anl
15	15 42 38 55	Intercostal 74A330843-2025, -2026 74A330843-2031, -2032 74A330843-9011, -9012 74A330843-2045, -2046	0.020 Sheet	6Al-4V Ti Anl
16	41	Closeout 74A331179-2011, -2012	0.016 Sheet	6Al-4V Ti Anl
17	53 54	Closeout 74A331179-2009, -2010 74A331179-2013, -2014	0.016 Sheet	6Al-4V Ti Anl
18	20 24 25	Intercostal 74A331173-2027, -2028 74A331173-9043, -9044 74A331173-2033, -2034	0.063 Sheet	6Al-4V Ti Anl
19	5 6 22 26 27	Intercostal 74A331173-2023, -2024 74A331173-9041, -9042 74A331173-2031, -2032 74A331173-9047, -9048 74A331173-2037, -2038	0.063 Sheet	6Al-4V Ti Anl
20	3 4	Support Trunnion 74A331170-9005, -9006 74A331170-2009, -2010	2.25 Bar Die Forging	7149-T7311 Al Aly 7049-T73 Al Aly
21	39	Support 74A331119-2009, -2010	0.094 1M100D01-10030 Extr	7075-T76 Al Aly
22	20 21 23	Intercostal 74A331173-2029, -2030 74A331173-9045, -9046 74A331173-2035, -2036	0.063 Sheet	6Al-4V Ti Anl

Figure 1. Components Index (Sheet 8)






































Idx No.	Eft	Nomenclature and Part No.	Description	Material
23		Pin 3M39C3-19	1/4 Dia. Steel	Cres
24	 	Base 74A501241-2001, -2002 74A501241-2007, -2008	 Bar	6Al-4V Ti Anl
25	  	Stop 74A501241-2005 74A501241-9001 74A501241-2009	 Bar	17-4PH
26		Cotter Pin MS24665-300	3/32 Dia. Steel	Cres
27	  	Bearing MS14101-16 KPD16-3 KPD16-5	 	-
28	  	Support 74A331401-2021, -2022 74A331401-2033, -2034 74A331401-2023, -2024	 Hand Forging	7050-T73652 Al Aly
29		Plate 74A331402-2001, -2002	 0.080 Sheet	301 Cres
30		Plate 74A331402-2003	0.040 Sheet	301 Cres
31		Fitting 74A331405-2003, -2004	 Plate	6Al-4V Ti Anl
32	   	Support 74A331401-9009, -9010 74A331401-2041, -2042 74A331401-2045, -2046 74A331401-2047, -2048	 Hand Forging	7050-T73652 Al Aly
<p style="text-align: center;">LEGEND</p> <p> 161353 THRU 161357.  161358 THRU 161761.  161353 THRU 161362.  161363 THRU 162477.  161353 THRU 161361.  161362 THRU 161737.  Machined as shown in detail C.  Machined as shown in detail E.  161353 THRU 161705, 161707.  161706, 161708 THRU 161741.  161353 THRU 161519.</p>				

Figure 1. Components Index (Sheet 9)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
12		161520 THRU 161702.		
13		161520 THRU 161761. 161353 THRU 161519 AFTER F/A-18 AFC 12 is incorporated.		
14		161742 AND UP.		
15		161353 THRU 161741.		
16		161353 THRU 161761.		
17		161924 AND UP.		
18		161703 THRU 161761.		
19		Machined as shown in detail F.		
20		161353 THRU 161744.		
21		161953 THRU 161961.		
22		161738 THRU 161744.		
23		161745 THRU 161952, 161962 THRU 162477.		
24		161745 THRU 161952.		
25		161953 THRU 162477.		
26		161953 THRU 161974.		
27		161745 THRU 161952, 161975 THRU 162477.		
28		161924 THRU 162444.		
29		161353 THRU 161966.		
30		161967 THRU 162414.		
31		162415 THRU 162873.		
32		161353 THRU 162430.		
33		162431 THRU 162477.		
34		161353 THRU 162877.		
35		161353 THRU 162852 BEFORE F/A-18 AFC 46.		
36		161353 THRU 162852 AFTER F/A-18 AFC 46.		
37		Torque retaining nut, 250 to 350 inch-pounds.		
38		162477 THRU 162881.		
39		161353 THRU 162477.		
40		162878 AND UP.		
41		162826 AND UP.		
42		161742 THRU 162476.		
43		162445 THRU 162476.		
44		162477 THRU 162834.		
45		162835 AND UP.		
46		162477 AND UP.		
47		161924 THRU 162476.		
48		162853 AND UP.		
49		161353 THRU 162434.		
50		162435 AND UP.		
51		162874 THRU 162909.		
52		163092 AND UP.		
53		162826, 162827.		
54		162828 AND UP.		
55		162882 AND UP.		
56		Part of 74A331802 spindle assembly.		
57		162826 AND UP BEFORE F/A-18 IAFC 199.		
58		162826 AND UP AFTER F/A-18 IAFC 119.		

Figure 1. Components Index (Sheet 10)

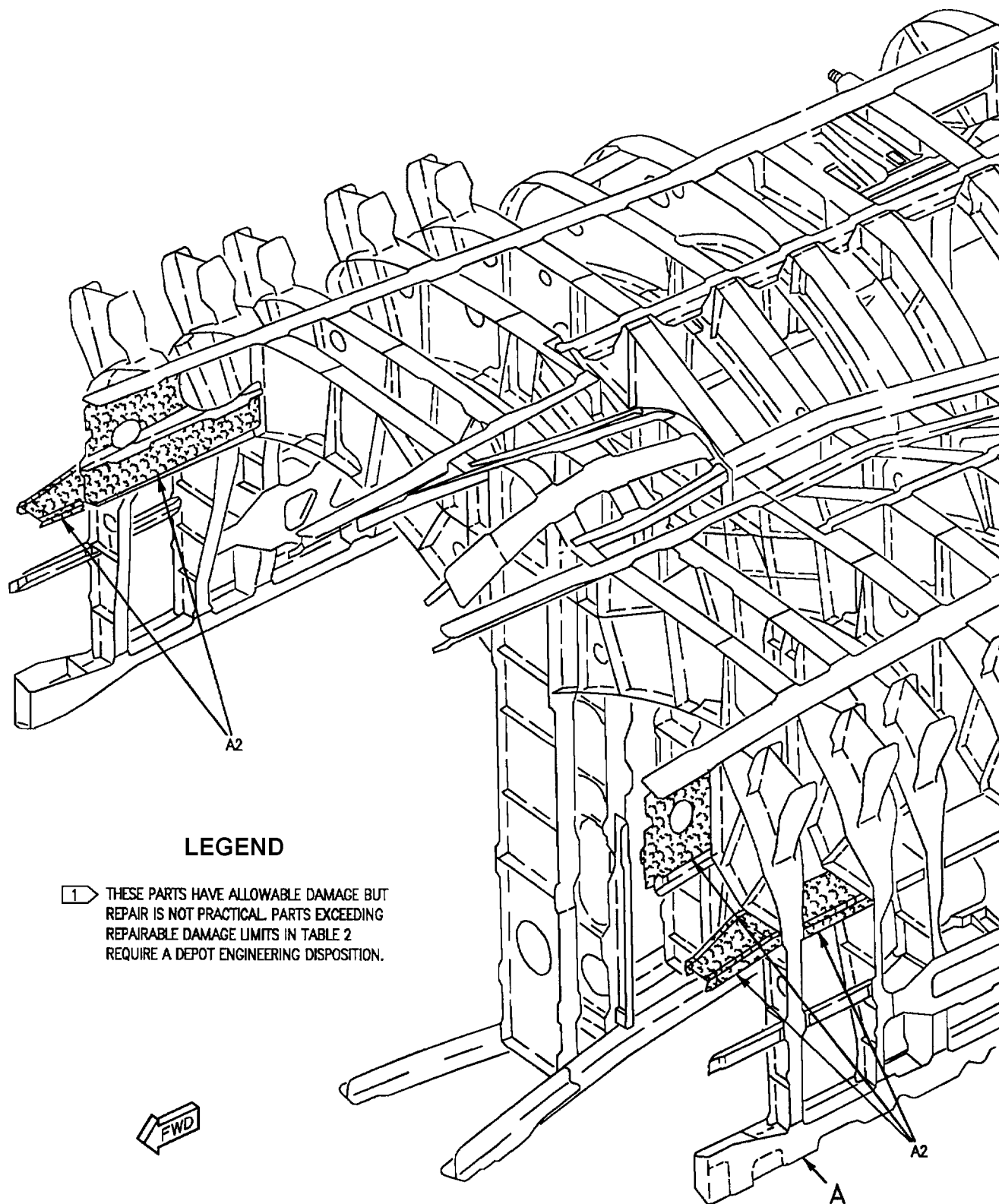


Figure 2. Repair Zones (Sheet 1)

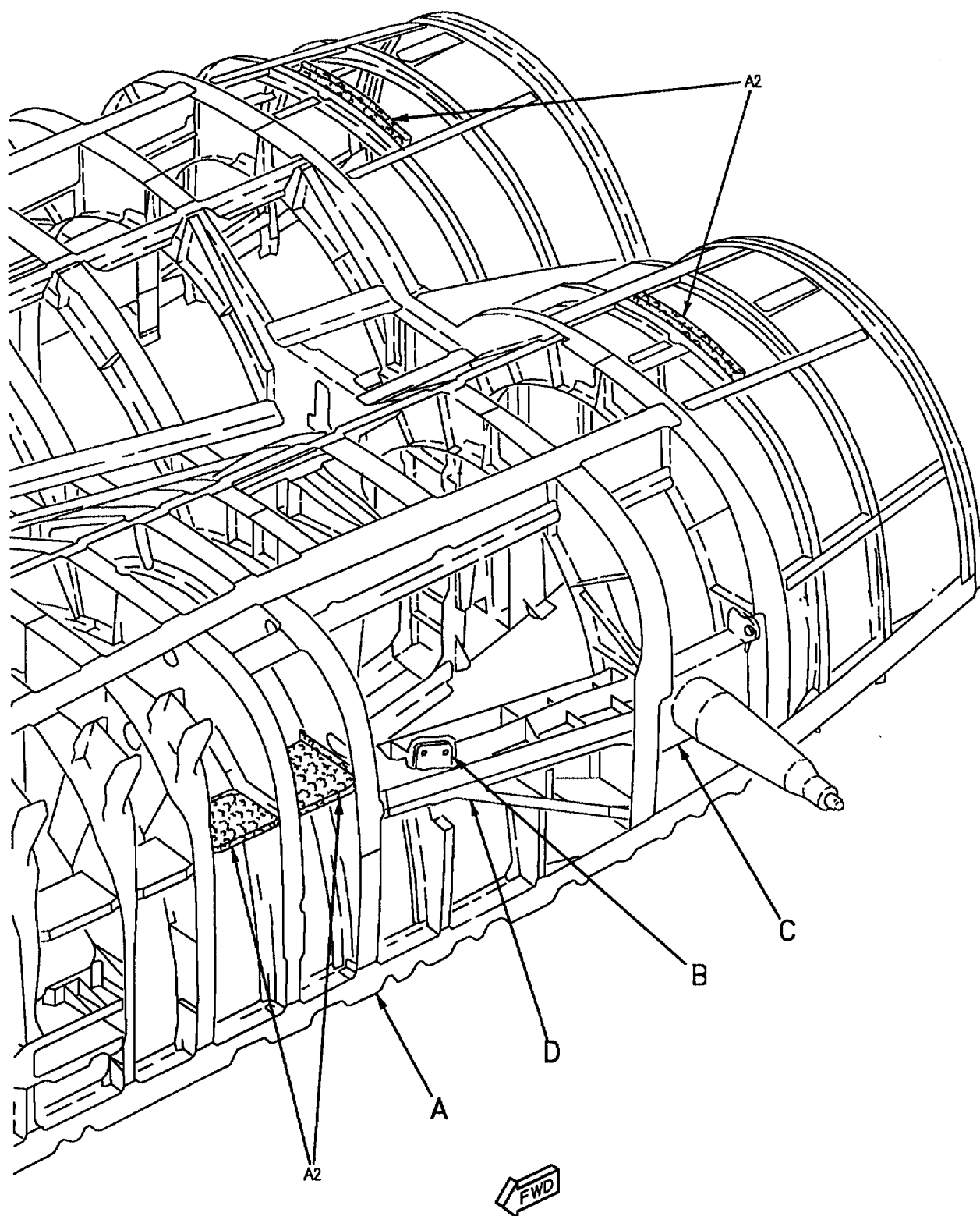


Figure 2. Repair Zones (Sheet 2)

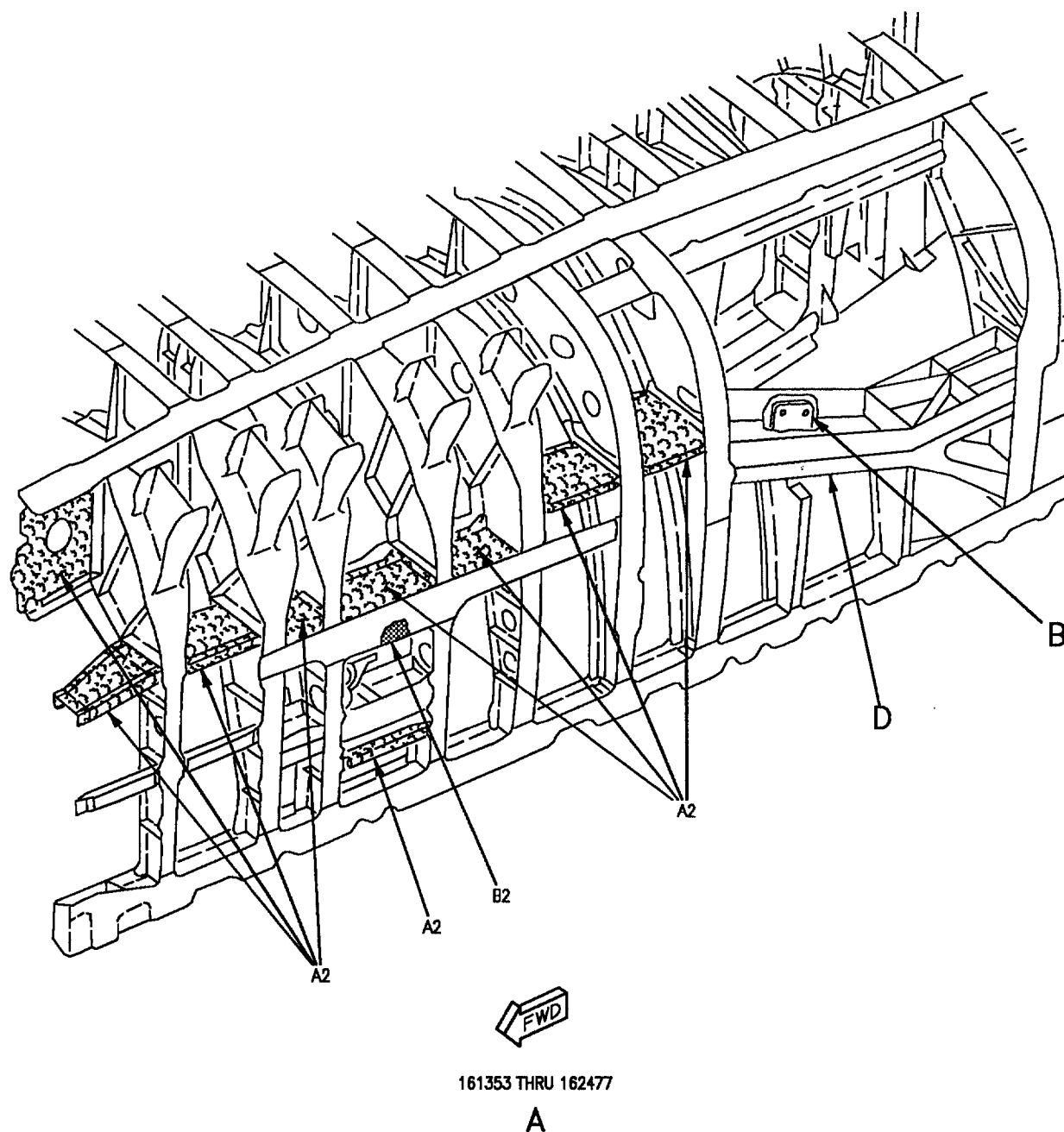


Figure 2. Repair Zones (Sheet 3)

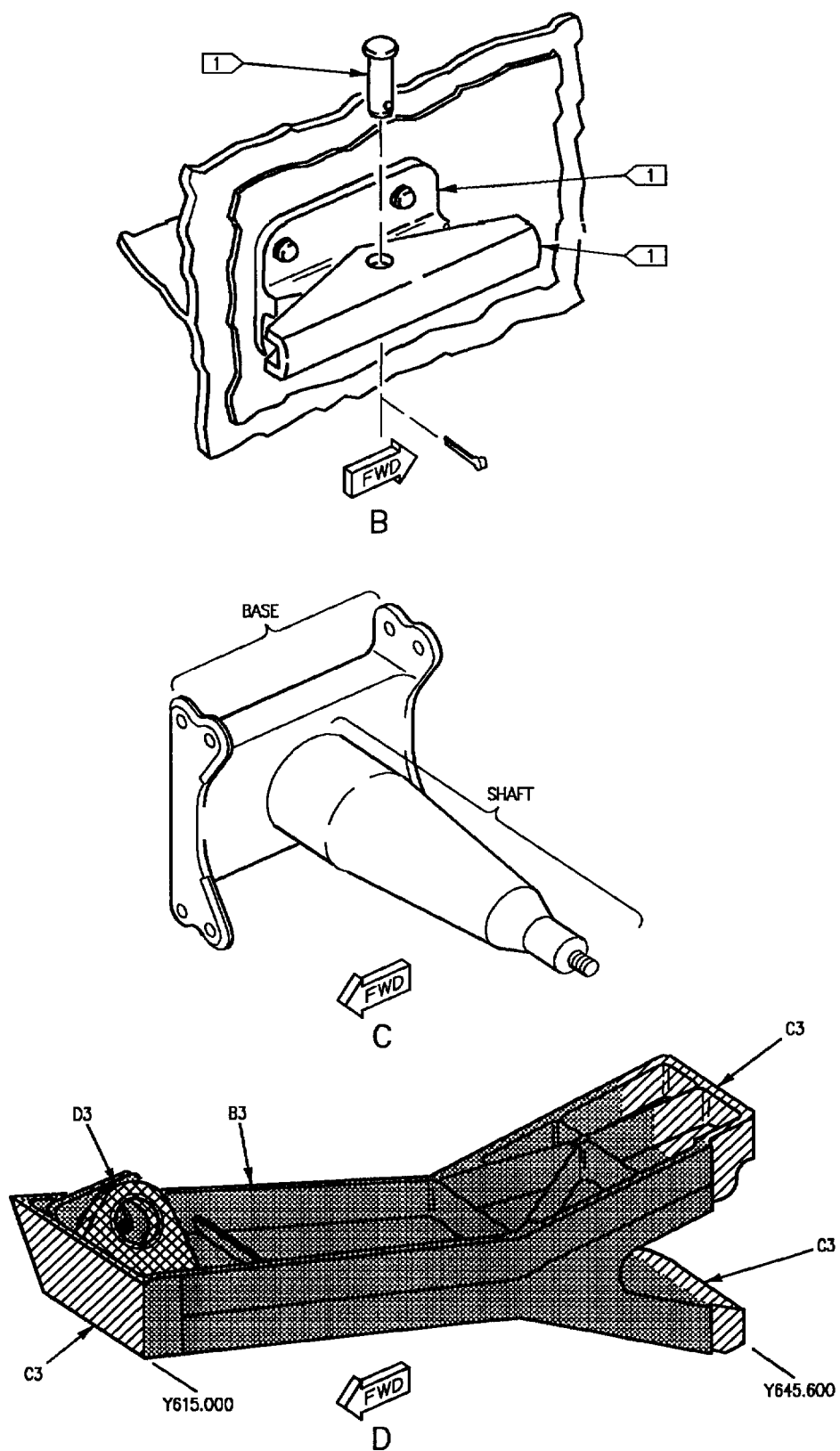


Figure 2. Repair Zones (Sheet 4)

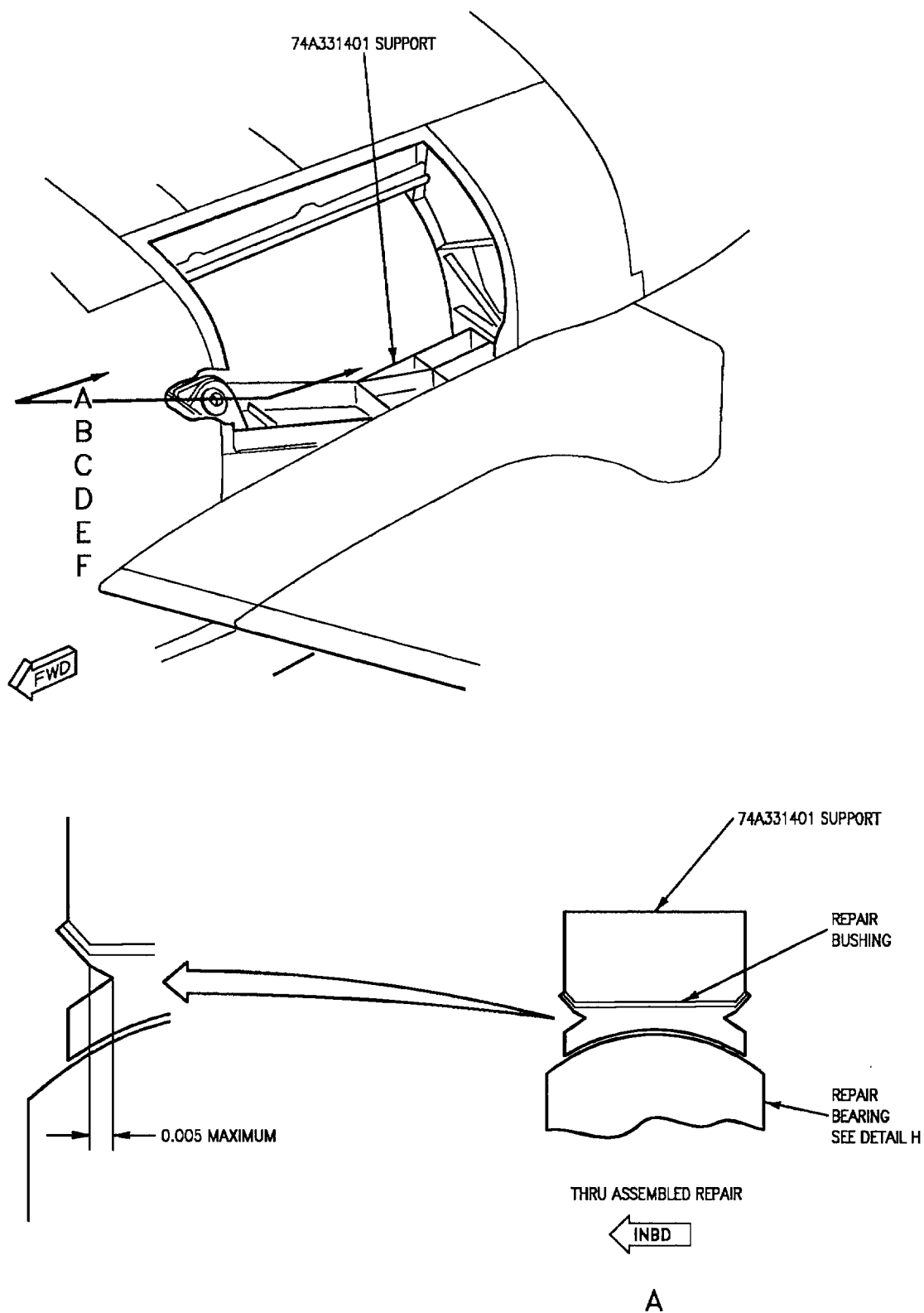


Figure 3. Support 74A331401, Bearing MS14101 Repair (Sheet 1)

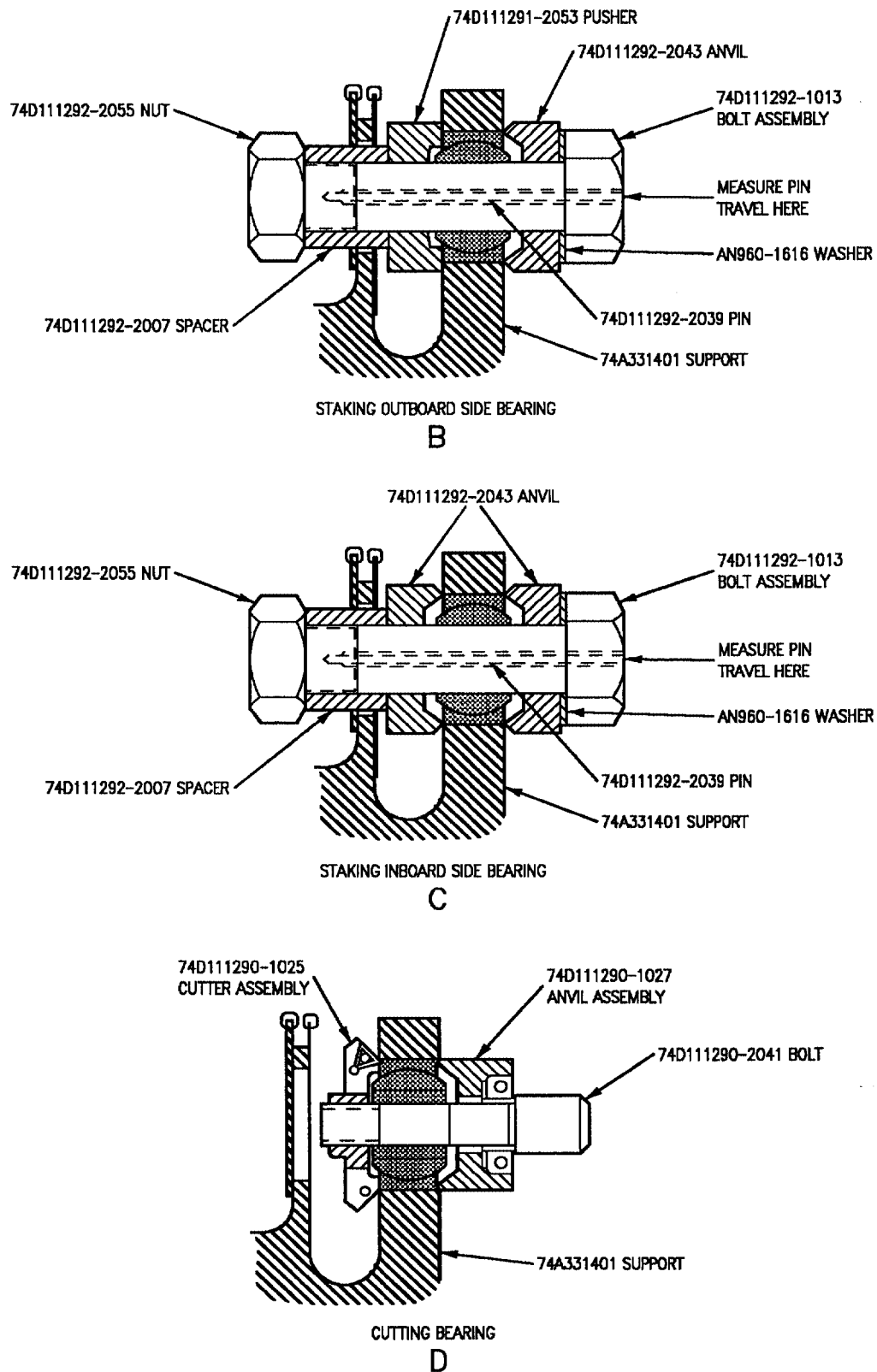


Figure 3. Support 74A331401, Bearing MS14101 Repair (Sheet 2)

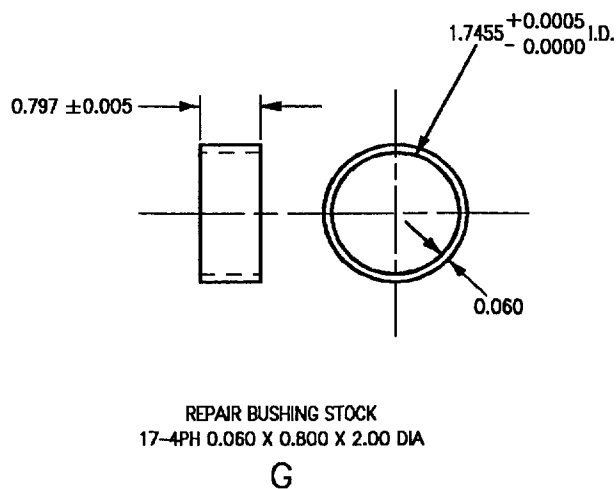
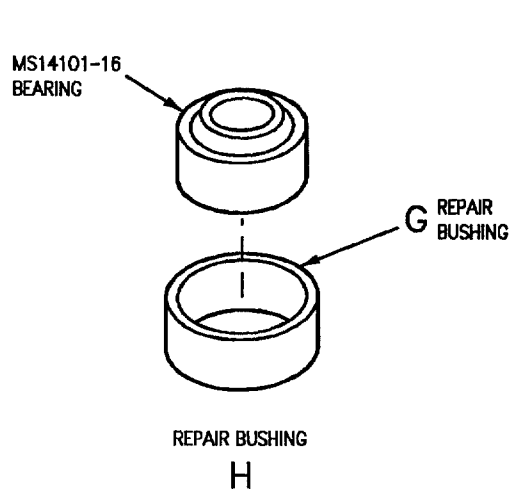
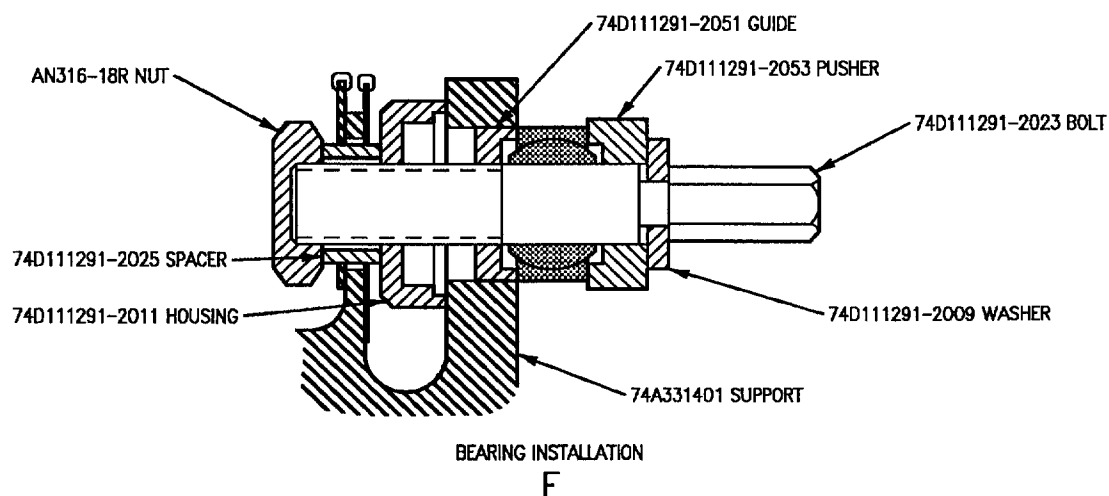
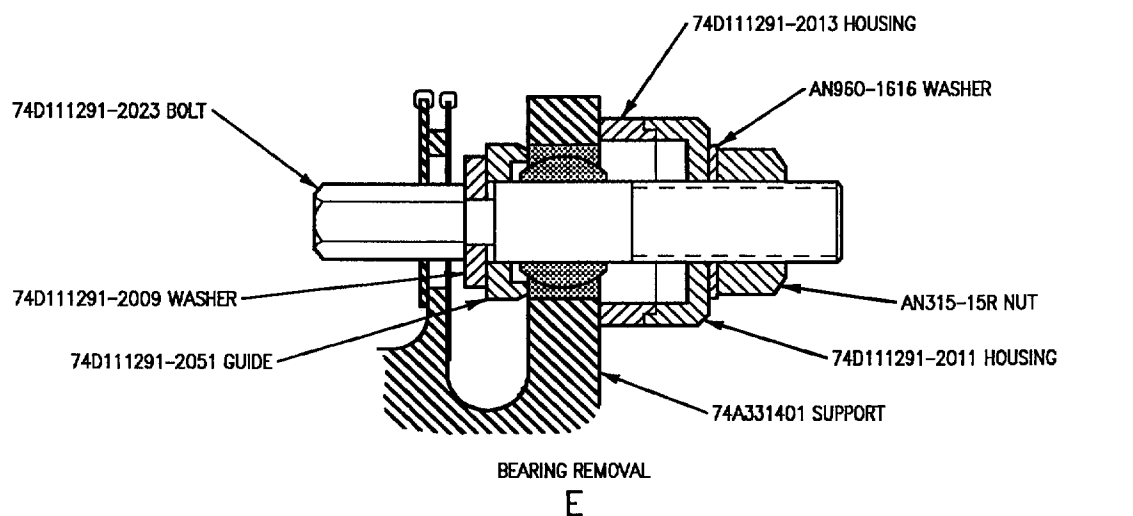


Figure 3. Support 74A331401, Bearing MS14101 Repair (Sheet 3)

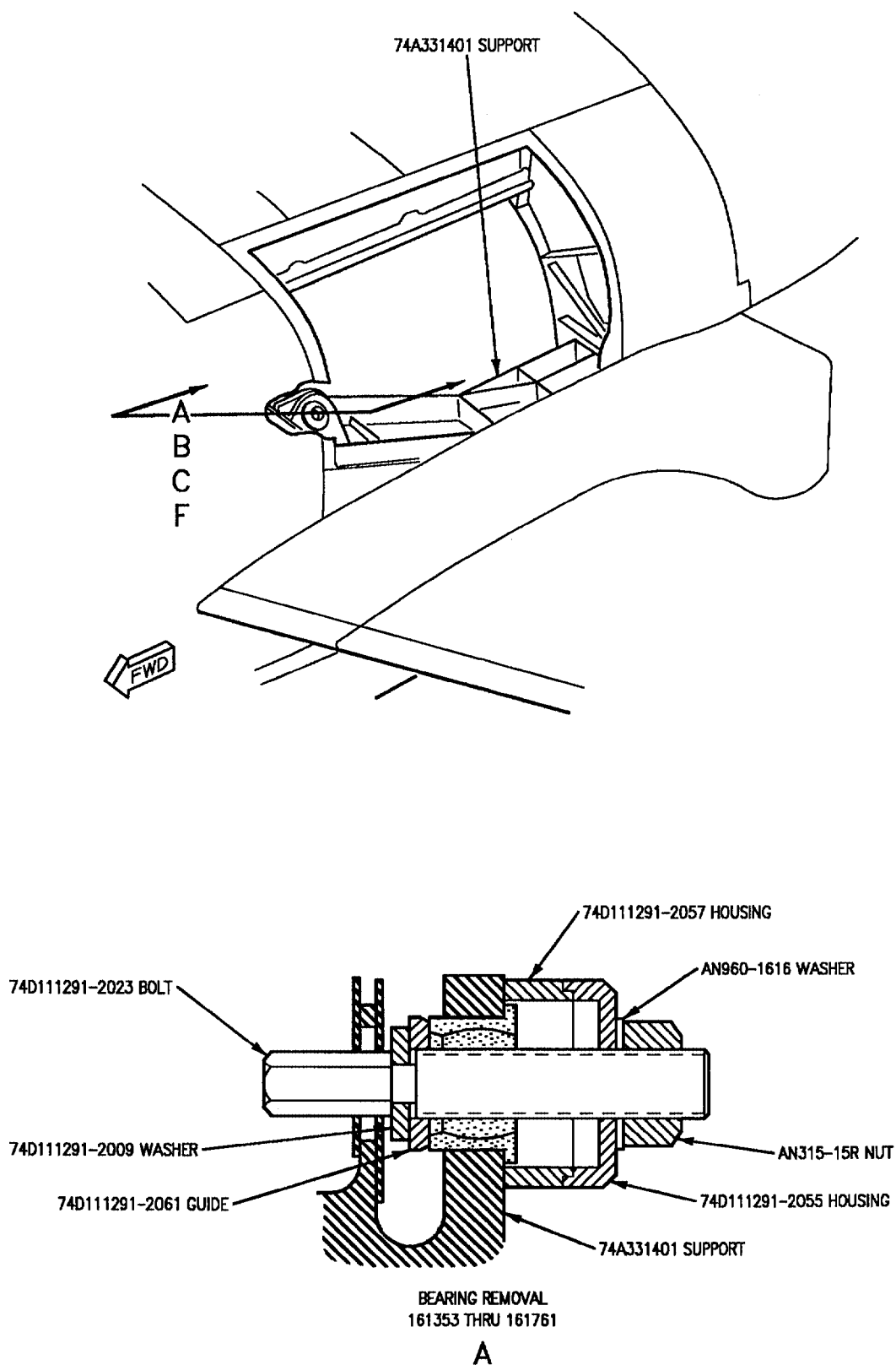


Figure 4. Support 74A331401, Bearing KDP16 Repair (Sheet 1)

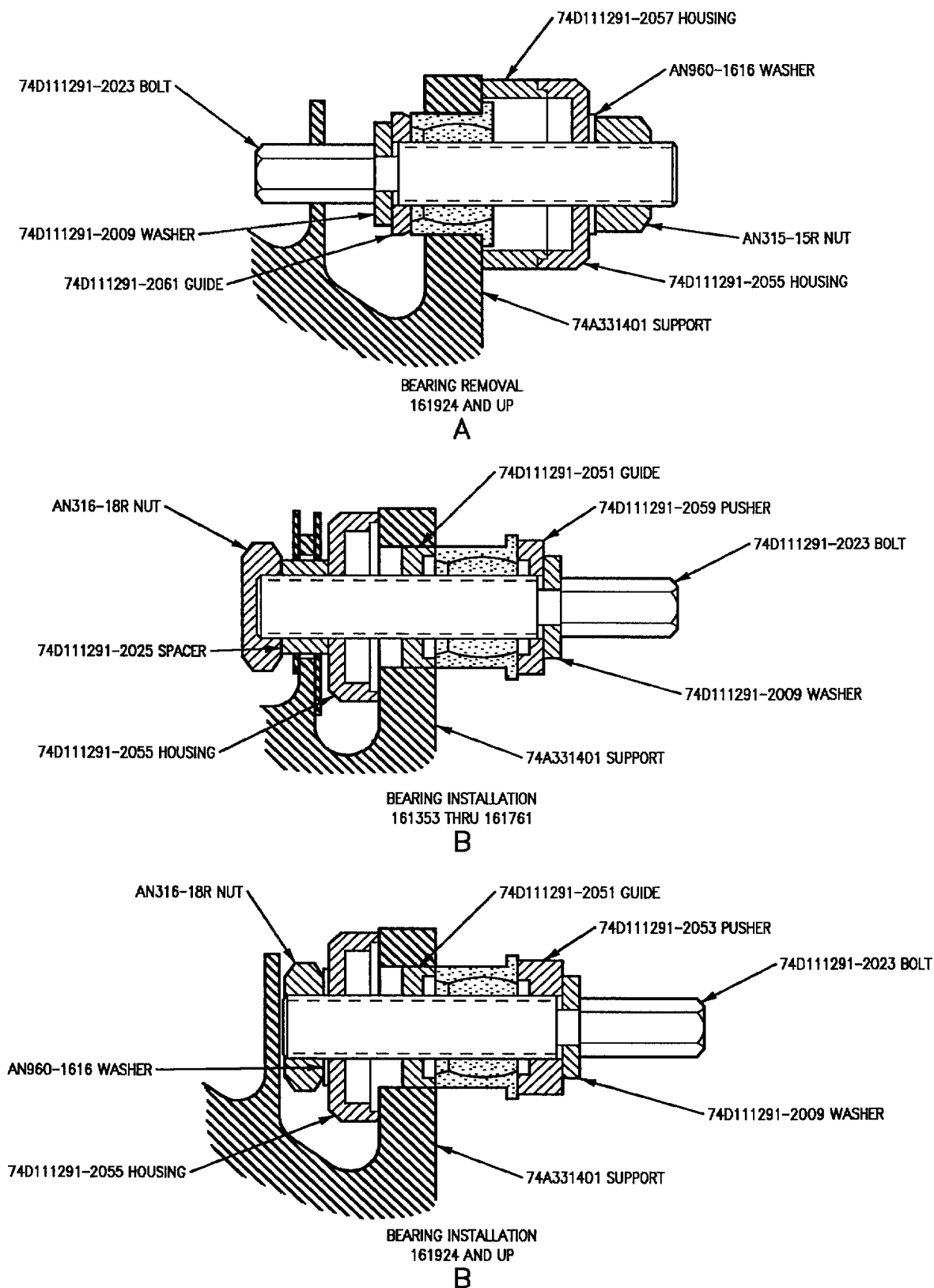


Figure 4. Support 74A331401, Bearing KDP16 Repair (Sheet 2)

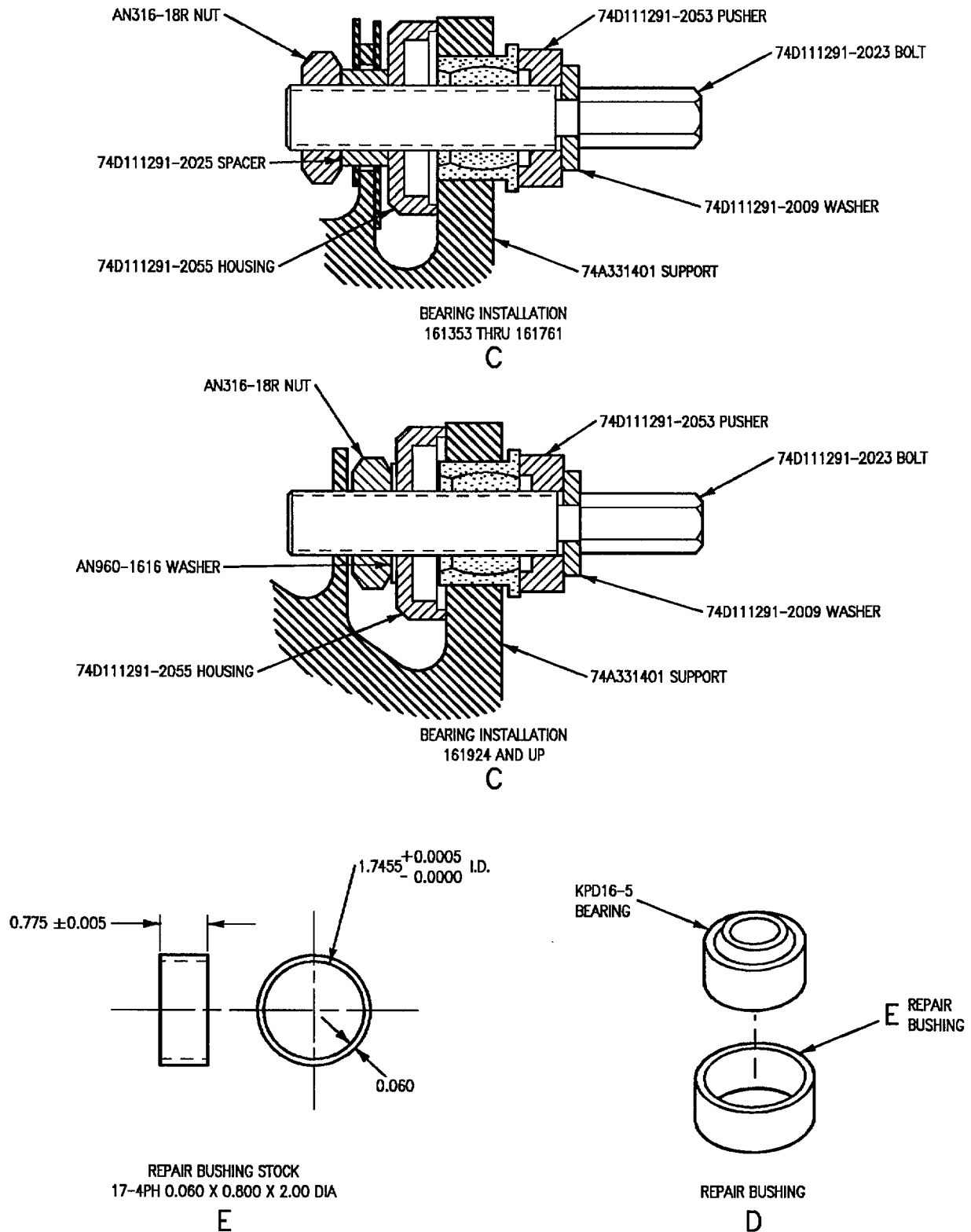


Figure 4. Support 74A331401, Bearing KDP16 Repair (Sheet 3)

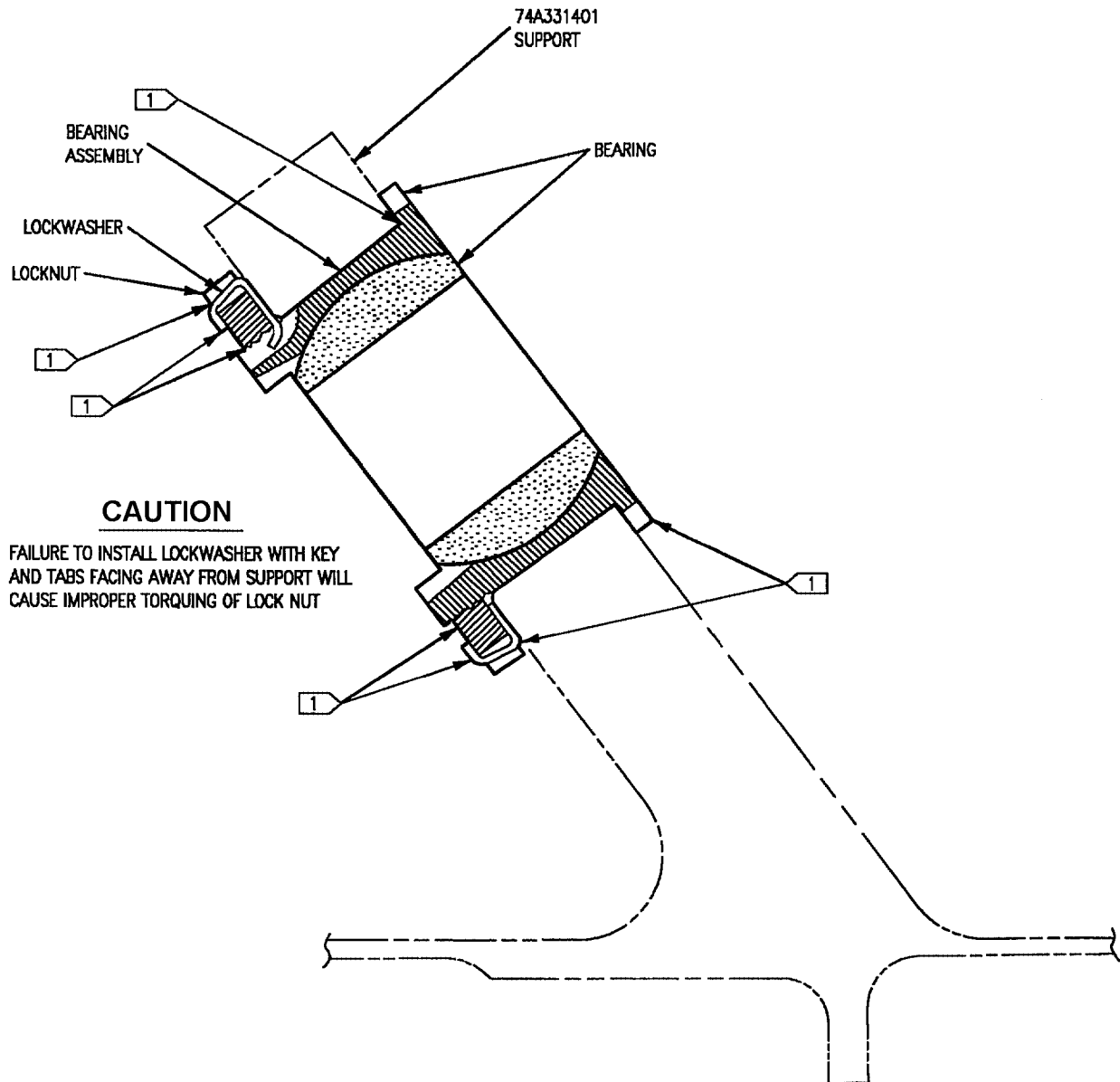


Figure 4. Support 74A331401, Bearing KDP16 Repair (Sheet 4)

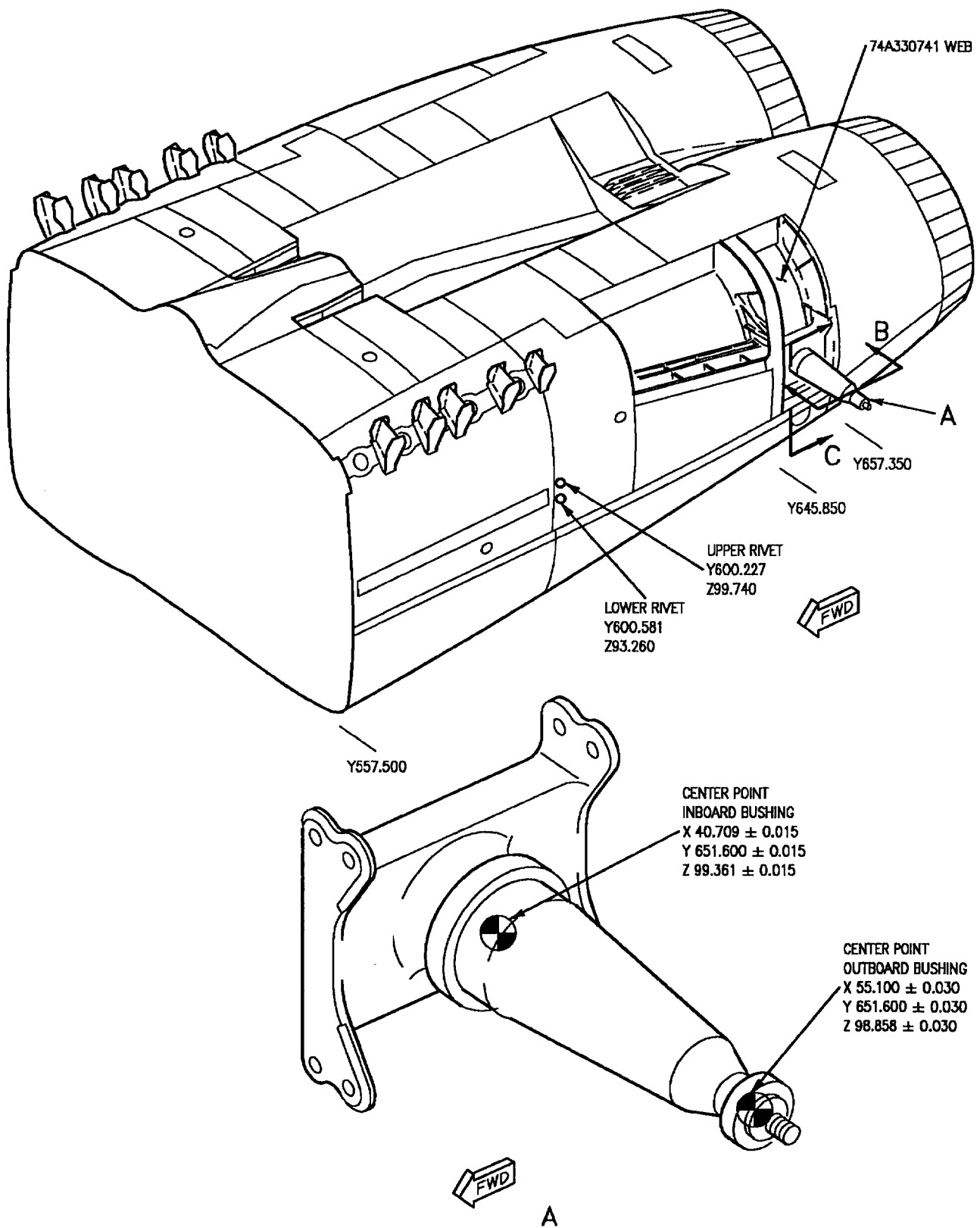
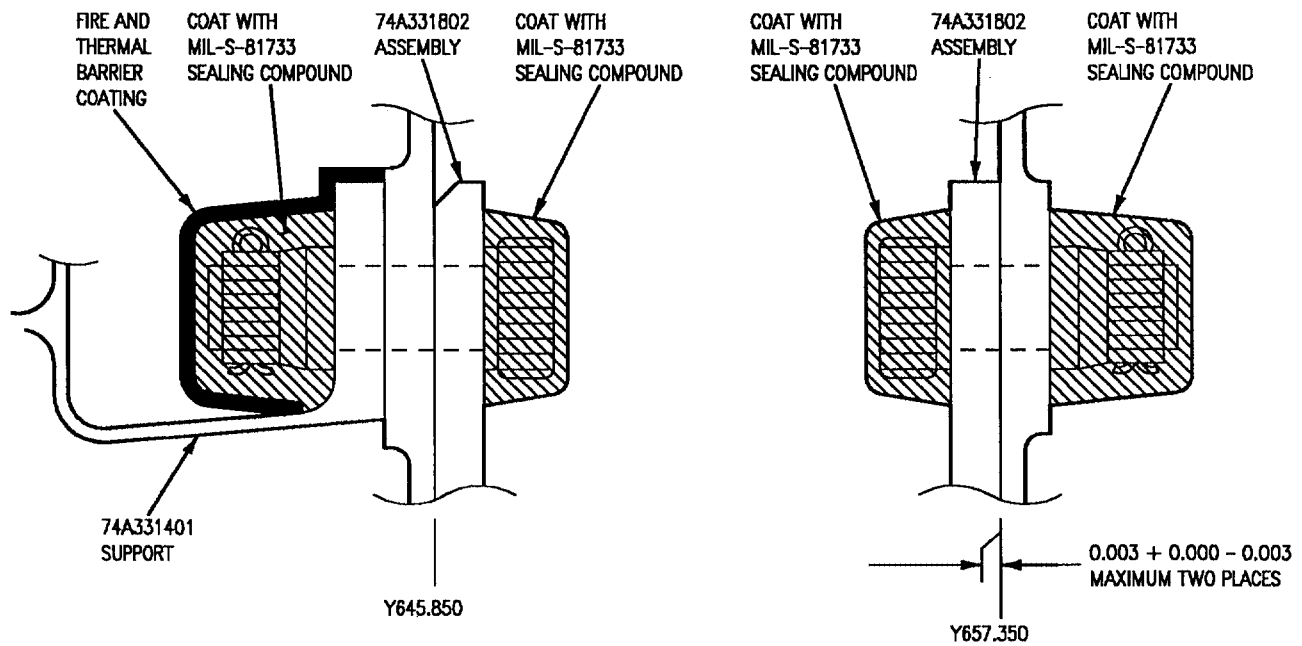
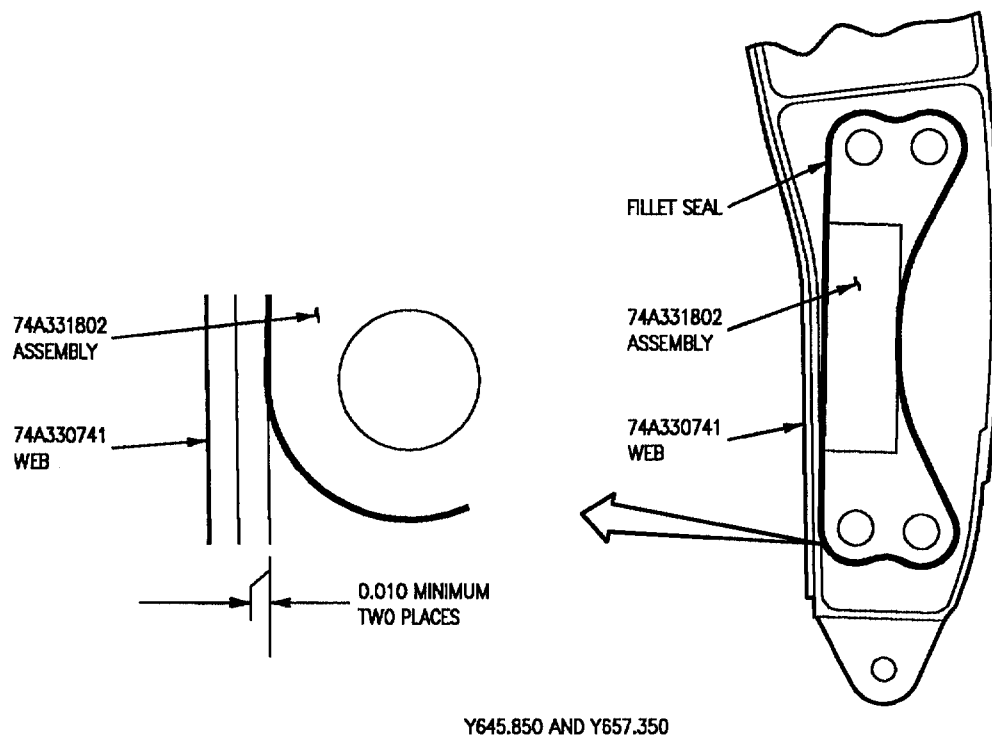


Figure 5. Spindle Assembly 74A331802 Replacement (Sheet 1)



TYPICAL FASTENER SEALING

B



C

Figure 5. Spindle Assembly 74A331802 Replacement (Sheet 2)

DEPOT MAINTENANCE

STRUCTURE REPAIR

HORIZONTAL STABILATOR SPINDLE SET 74D110416 FOR BUSHINGS
74A331802 REMOVAL AND REPLACEMENT

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Fuselage Structure	WP007 00
Horizontal Stabilator, Free Play Inspection and Wear Tolerances	WP037 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Empennage Finish System and Markings	WP039 00

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Removal	2

Record of Applicable Technical Directives

None

1. **DAMAGE EVALUATION.** See figure 1.

2. Procedures will replace either inboard or outboard spindle bushing. Check wear tolerance of undamaged bushing, wear tolerances (WP037 00). If bushing is within tolerance, do not replace it, if bushing exceeds tolerance, remove and replace both bushings. If both bushings require replacement do inboard bushing first, outboard bushing last. Replace repaired spindle on same aircraft.

3. **BUSHING 74A331802-2001 AND-2003 RE-MOVE AND INSULATION.** See figure 1.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Arbor Press, Bench Mounted, Hand Operated, 6 ton	4R
Hoisting Cable	-
Horizontal Stabilizer Spindle Bushing Installation Set	74D110416

Materials Required

Nomenclature	Specification or Part Number
Bushing (Inboard)	74A331802-2003
Bushing (Outboard)	74A331802-2001
Mens Gloves	MIL-G-3866, Type 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1

4. Removal.

a. Remove spindle assembly 74A331802 from aircraft (WP007 00).



During all phases of bushing removal and replacement, extreme care should be taken so as not to damage undamaged bushing, causing more work.

b. Using lathe, remove damaged bushing by machining bushing to wall thickness of 0.005 inches, then peel off remaining segment of bushing.

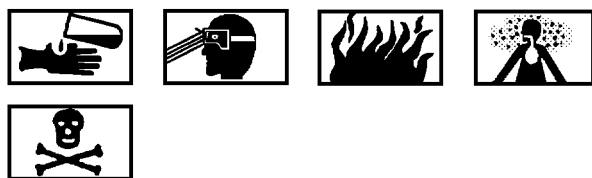
c. Remove spindle from lathe.

d. Touch up spindle finish in area of removed bushing if required. (A1-F18AC-SRM-500, WP039 00).

5. Installation. For bushing 74A331802-2003 installation go to Bushing 74A331802-2003 Installation, below, this WP; for bushing 74A331802-2001 go to Bushing 74A331802-2001 Installation, below, this WP.

6. Bushing 74A331802-2003 Installation. See figure 1.

a. Set spindle base on working surface of arbor press with spindle shaft in vertical position, detail A.



Primer

10

b. Apply primer to spindle in area of bushing installation only.

c. Loosen nut AN316C4R on bolt NAS6704U16, detail D.

NOTE

Clamp assembly is installed with parabolic fillet towards base of spindle.

d. Slip clamp assembly 74D112032-1001 over spindle until it bottoms out at base, detail A.

e. Tighten nut AN316C4R on bolt NAS6704U16, detail D.

f. Install heater assembly 74B119013-101 over replacement bushing 74A331802-2003, detail C.



Cadmium



13

WARNING

Cadmium plating may emit toxic fumes when heated; use respirator.

g. Connect heater assembly 74B119013-101 to power source until a temperature of 525°F ± 25°F is obtained.

h. Monitor temperature on bushing inner surface at a minimum of three places, using hand held thermocouple 450-AKT, detail C.

i. Slip heated bushing with heater assembly 74B119013-101 attached over spindle, being careful not to disturb cadmium plating on bushing nor finish on spindle, until bushing seats firmly against clamp assembly 74D112032-1001, detail A.

j. Install tubing 74D112032-2009 over spindle until it contacts bushing and heater assembly 74B119013-101, detail A.

k. Activate arbor press to exert downward pressure on tubing 74D112032-2009 for cooling down process, detail A.

l. Disconnect heating assembly 74B119013-101 from power source.

m. After cool down remove heater assembly 74B119013-101 from bushing.

n. Remove downward pressure on arbor press.

o. Remove tubing 74D112032-2009 from spindle.



Beryllium

14

WARNING

Material used in replacement bushing contains beryllium. Particles can cause lung cancer and allergic symptoms. Avoid contact, protect face and eyes, use respirator.

p. Rig spindle assembly in lathe and machine bushing to 4.8890 +0.000 -0.0005 inch diameter.

q. Remove spindle assembly from lathe.

r. Install spindle assembly 74A331802 on aircraft per (WP007 00).

7. Bushing 74A331802-2001 Installation. See figure 1.

a. Set spindle base on working surface with spindle shaft in vertical position, detail B.



Primer

10

b. Apply primer to spindle in area of bushing installation only.

c. Install heater assembly 74B119013-103 over replacement bushing 74A331802-2001, detail C.



Cadmium

13

WARNING

Cadmium plating may emit toxic fumes when heated; use respirator.

d. Connect heater assembly 74B119013-103 to power source until a temperature of 525°F ± 25°F is obtained.

e. Monitor temperature on bushing inner surface, at a minimum of three places, using hand held thermocouple model 450-AKT, detail C.

f. Slip heated bushing with heater assembly 74B119013-103 attached over spindle, being careful not to disturb cadmium plating on bushing nor finish on spindle, until bushing seats firmly against spindle shaft, detail B.

g. Disconnect heater assembly 74B119013-103 from power source.

h. After cool down remove heater assembly 74B119013-103 from bushing.



Beryllium

14

WARNING

Material used in replacement bushing contains beryllium. Particles can cause lung cancer and allergic symptoms. Avoid contact, protect face and eyes, use respirator.

i. Rig spindle assembly in lathe and machine bushing to 1.9990 +0.0000 -0.0005 inch diameter.

j. Remove spindle assembly from lathe.

k. Install spindle assembly 74A331802 on aircraft per (WP007 00).

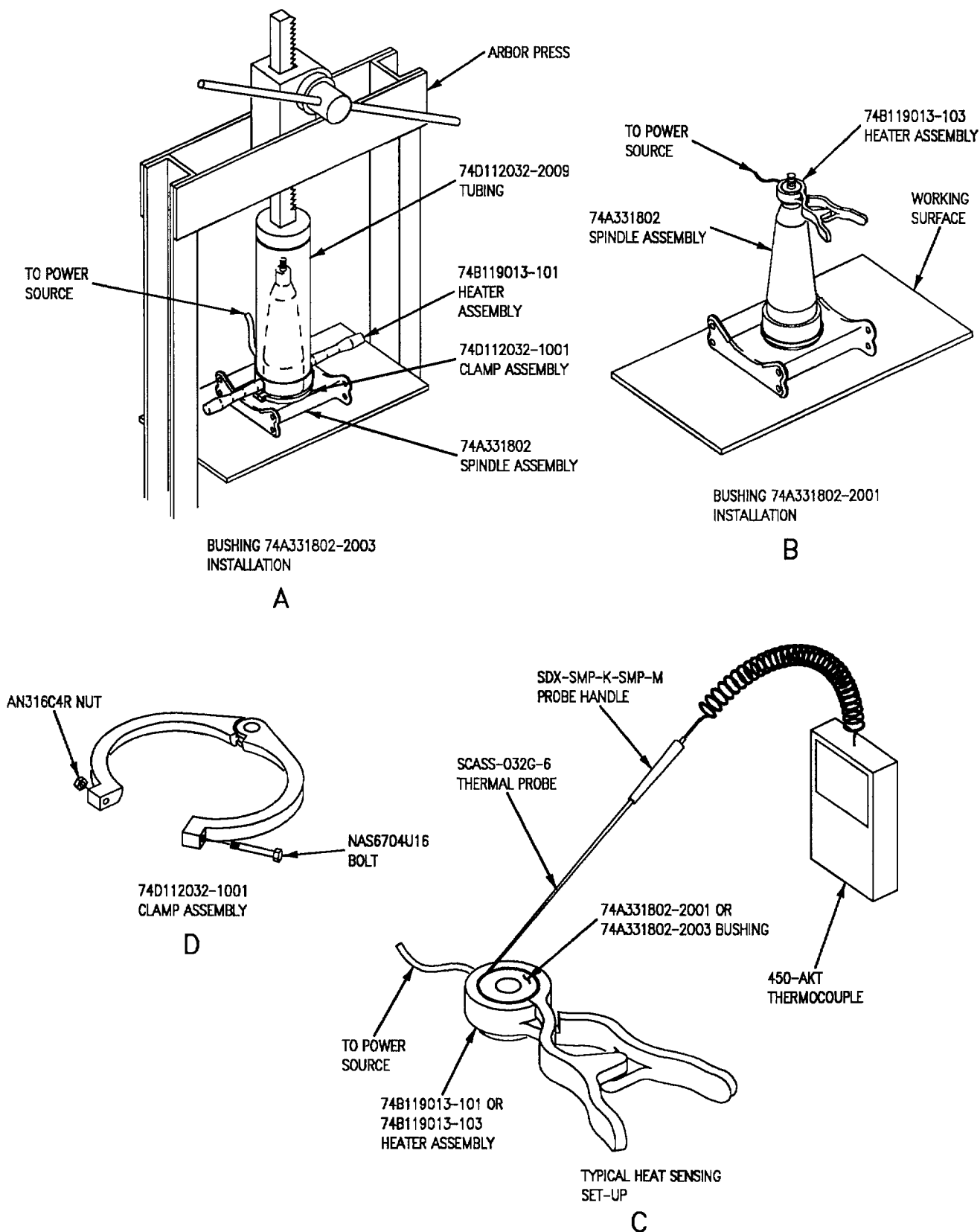


Figure 1. Horizontal Stabilizer Spindle Bushing Installation Set

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

STRUCTURE REPAIR

AFT FUSELAGE FORMERS

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Chemical Treatment	WP008 000
Aft Fuselage Finish Systems and Markings	WP036 00
Nondestructive Inspection	A1-F18AC-SRM-300
Penetrant Method	WP004 00
Eddy Current Surface Inspection of Aluminum Alloys	WP007 00
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation - Engine	WP003 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Forming Sheet Metal	WP004 01
Heat Treatment of Aluminum Alloys	WP004 11
Adhesive, Cement, and Sealant; Preparation and Application	WP0011 00

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Repairs	2
Former 74A333360 (Y664.5) and 74A333365 (Y671.9) Repair ON 161924 AND UP	2

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 IAFC 119	12 Jul 89	L/R Forward Engine Mount Support Structure, Replacement of (ECP MDA-F/A-18-00304)	1 Feb 90	-

1. **DAMAGE EVALUATION.** See figure 1.
2. The figure identifies types of material used. The data shown can be used to analyze the damage.
3. **NEGLIGIBLE DAMAGE.** Damage requires a depot engineering disposition.
4. **REPAIRABLE DAMAGE.** Damage requires a depot engineering disposition.

5. REPAIRS.

6. Types of repairs are temporary, one time flight, permanent, critical area, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. **FORMER 74A333360 (Y664.5) AND 74A333365 (Y671.9) REPAIR, ON 161924 AND UP.** See figure 2. Repair procedures for cracked formers in area where formers attach to 74A333150 stringer is intermediate maintenance.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Aircraft Structure Repair Tool Kit	74D110325-1001
C-Clamps	-
Drill Motor, Angle	-
Drill Motor, Variable Speed, 90°	No. 11 DPV-15DA-450/ 1250 RPM

Materials Required

NOTE

Alternate item part numbers are shown indented.

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Repair Angle (Fabricate)	0.063 Sheet, 7075-0 Alclad

Materials Required (Continued)

Part Number or Type Designation	Nomenclature
Repair Clip (Fabricate)	0.063 Sheet, 7075-0 Alclad
Repair Doubler (Fabricate)	0.063 Sheet, 7075-0 Alclad
Rivet, Solid, Universal Head	CSR903B-4-() MS20470T-4-()
Rivet, Solid, Universal Head	CSR903B-5-() MS20470T-5-()
Sealing Compound	MIL-S-83430, Class A 1/2
Shim Stock, AL LAM 5052-H39	MIL-S-22499, Class 2, Type 1, Comp 1, 0.048 x 0.95 x 1.92

- a. Remove engine (A1-F18AC-270-300, WP003 00).
- b. Remove four rivets securing 74A333893 clip to 74A333150 stringer and Y664.500 or Y671.900 former, detail A.
- c. Remove clip.

NOTE

Steps d and e apply when repair is required on Y664.500 former.

d. Remove two rivets attaching 74A503065 support to Y664.500 former, detail A.

e. Carefully position 74A503065 support out of way to prevent damage to fire detection unit.

f. Rout out 6M42-1 crimp on damaged former, detail A.

g. Penetrant and eddy current inspect to locate end of crack (A1-F18AC-SRM-300, WP004 00 and WP007 00).

h. Stop drill end of crack using 0.187 inch diameter drill if crack extends past crimped area that was removed in step f.

i. Reinspect to make sure crack does not extend past stop drill.

j. Lay out and form the following repair parts in “O” condition to meet contour surface of former (A1-F18AC-SRM-200 WP004 01), per substeps.

(1) Fabricate repair clip to dimensions shown on detail C.

(2) Fabricate repair doubler to dimensions shown on detail D.

(3) Fabricate repair angle to dimensions shown on detail E.

(4) Form 6M42-1 crimp on repair angle to dimensions shown on detail F.

k. Heat treat repair parts to -T62 condition after forming (A1-F18AC-SRM-200, WP004 11).

l. Temporarily install repair parts on damaged former and check for proper fit, details A and B.

m. Trim and/or adjust repair parts until proper fit is obtained.

NOTE

A chem mill appears within the repair area on Y664.500 and Y671.900 formers having the effectivity shown in legend, flagnote 1. Aircraft falling within this effectivity will require fabrication of shims per steps n and o.

n. With repair angle clamped in position on former, measure gap between chem milled surface of former and inner surface of repair angle, detail A.

NOTE

Each shim lamination is 0.003 inch in thickness. Peel shim laminations until desired thickness is obtained.

o. Fabricate shims to dimensions shown on details G and H.

p. Locate and drill 0.128 +0.006 -0.000 inch diameter holes in repair angle using dimensions given on detail E.

q. Position repair parts on former and C-clamp in position.

r. Back drill 0.128 +0.006 -0.000 inch diameter holes from repair angle into former and repair doubler.

NOTE

Step s applies when repair is required on Y664.500 former.

s. Back drill two 0.128 +0.006 -0.000 inch diameter holes from Y664.500 former flange into repair angle flange.

t. Loosen C-clamp and remove repair angle.

u. Tighten C-clamp and back drill two 0.161 +0.005 -0.000 inch diameter holes from former into repair doubler and repair clip.

v. Back drill two 0.161 +0.005 -0.000 inch diameter holes from 74A333150 stringer into repair clip.

w. Loosen C-clamp and reinstall repair angle.

x. Tighten C-clamp and back drill two 0.161 +0.005 -0.000 inch diameter holes from repair clip into repair angle.

y. Loosen C-clamp and remove repair parts from former.

z. Deburr holes in repair parts and former.



Isopropyl Alcohol

1

aa. Clean repair parts and repair area on former using clean cheesecloth moistened with isopropyl alcohol.

ab. Wipe areas dry with clean dry cheesecloth before isopropyl alcohol evaporates.

ac. Apply chemical treatment to repair parts and any exposed metal on former (A1-F18AC-SRM-500, WP008 00).

ad. Apply finish system to repair parts and former (A1-F18AC-SRM-500, WP036 00).



Sealing Compound

2

ae. Fay surface seal mating surfaces of repair parts with MIL-S-83430 sealing compound. For sealant prep-

aration and application (A1-F18AC-SRM-200, WP011 00)

af. Install CSR903B-4() rivets set wet with MIL-S-83430 sealing compound 10 places.

ag. Install CSR903B-5-() rivets set wet with MIL-S-83430 sealing compound 4 places.

ah. Remove any excess sealing compound with clean cheesecloth moistened with isopropyl alcohol.

ai. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).

aj. Install engine (A1-F18AC-270-300, WP003 00).

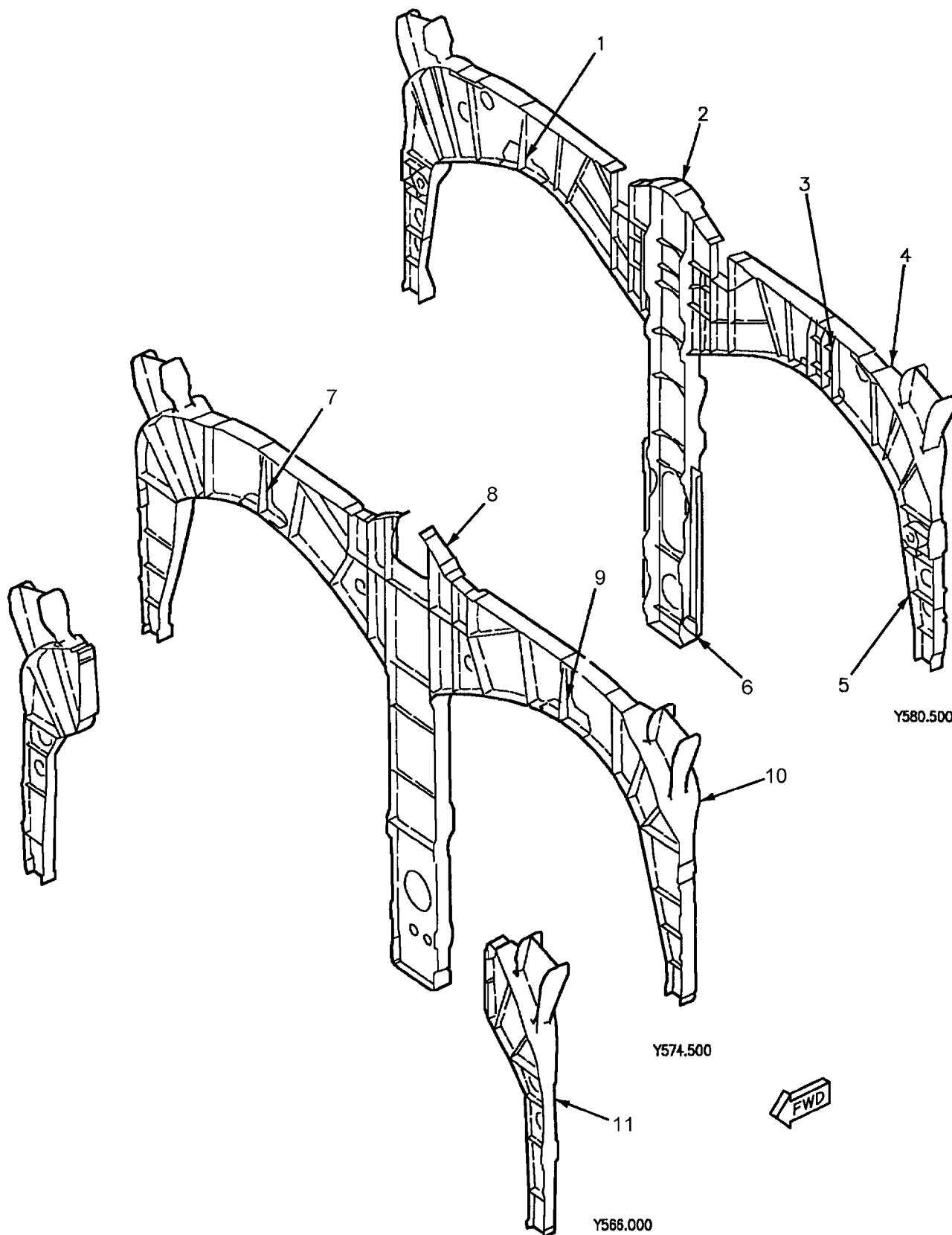


Figure 1. Material Index (Sheet 1)

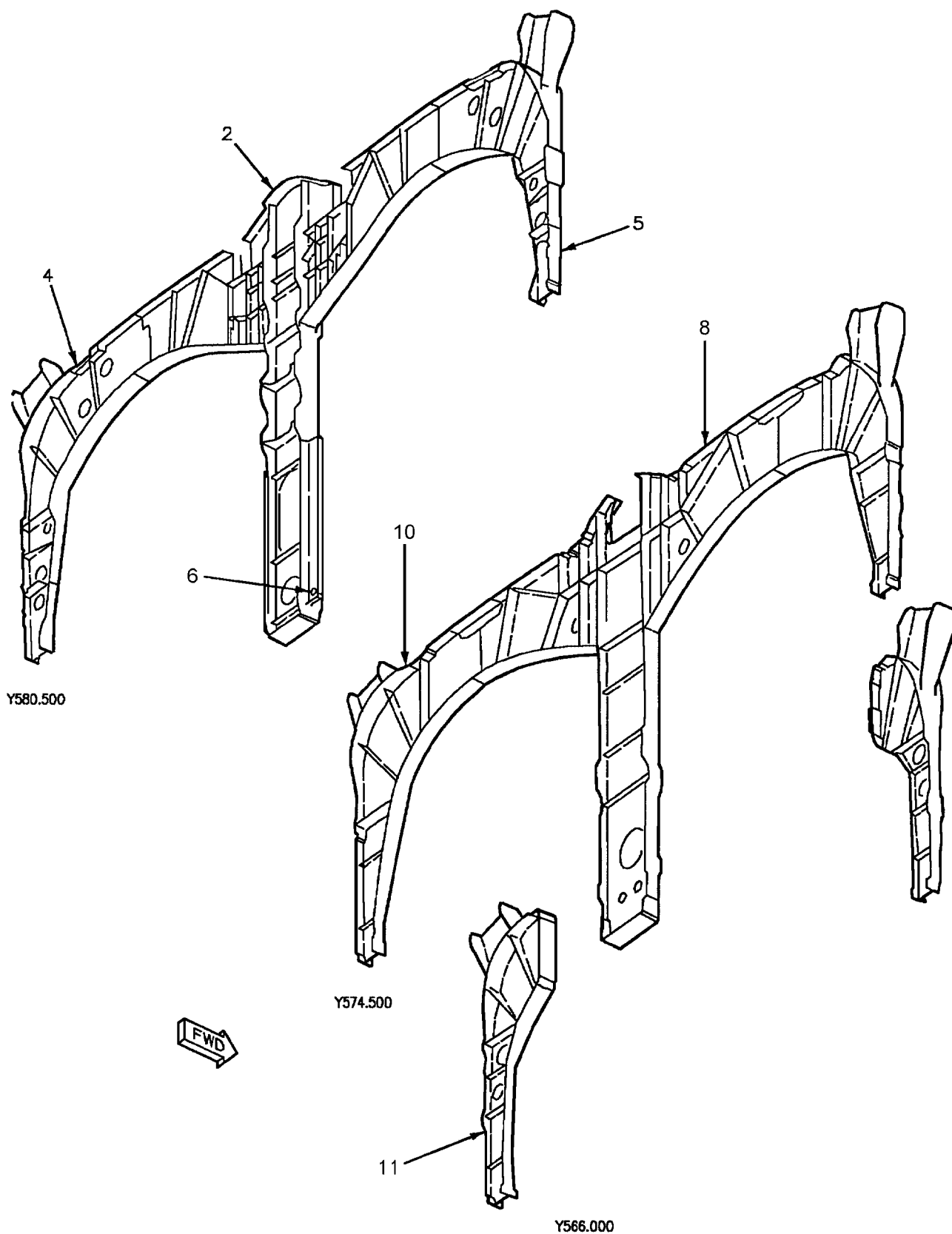


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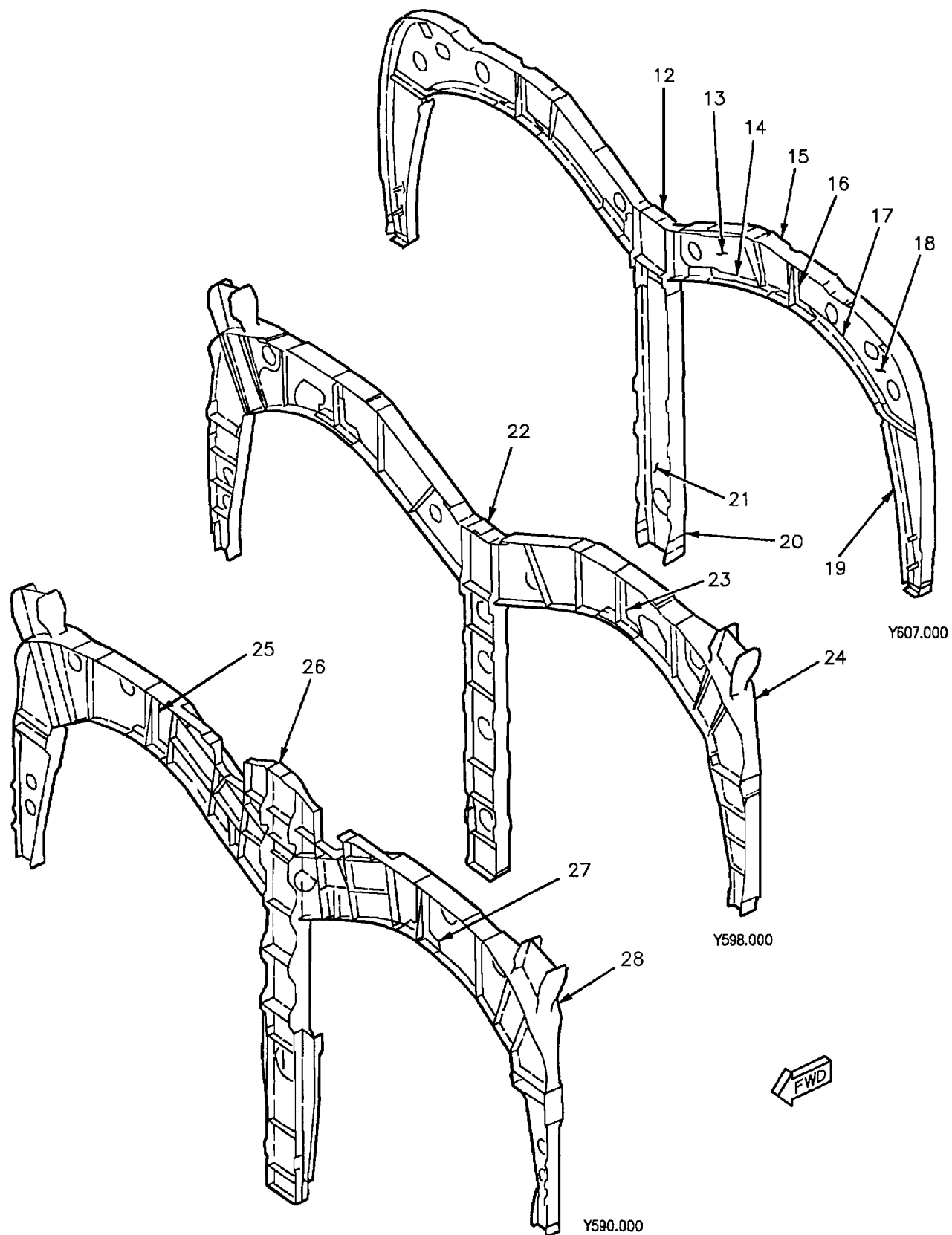


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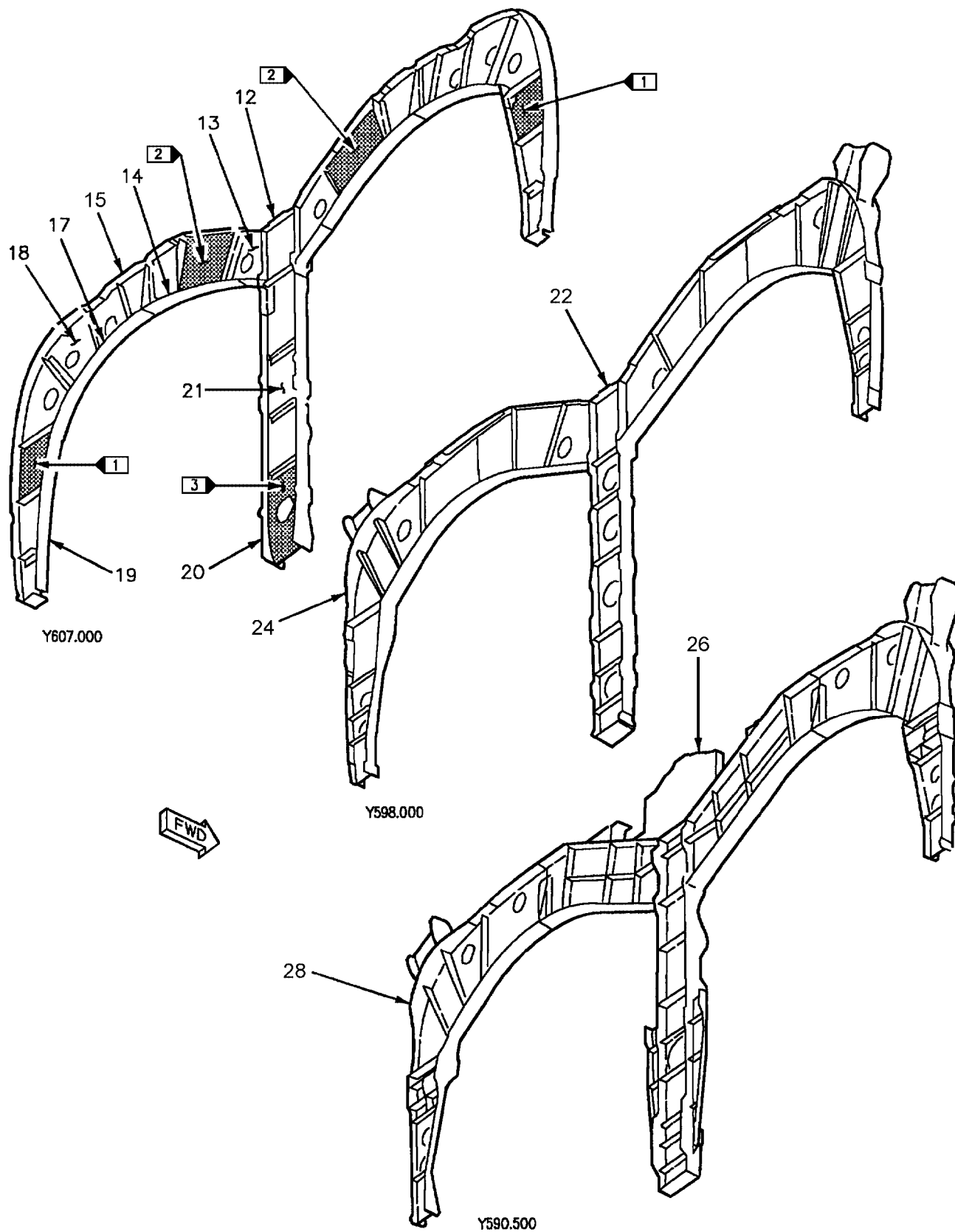


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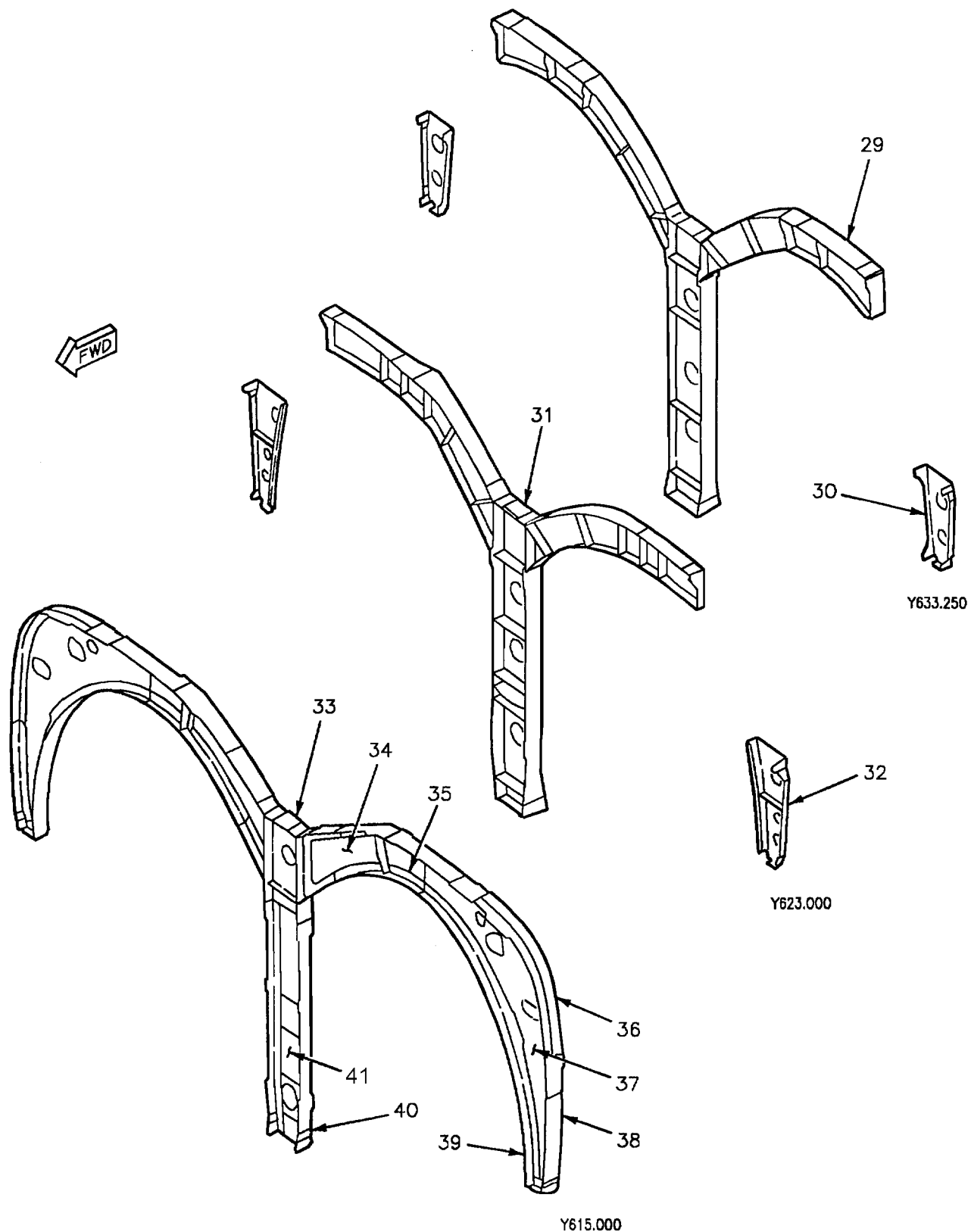


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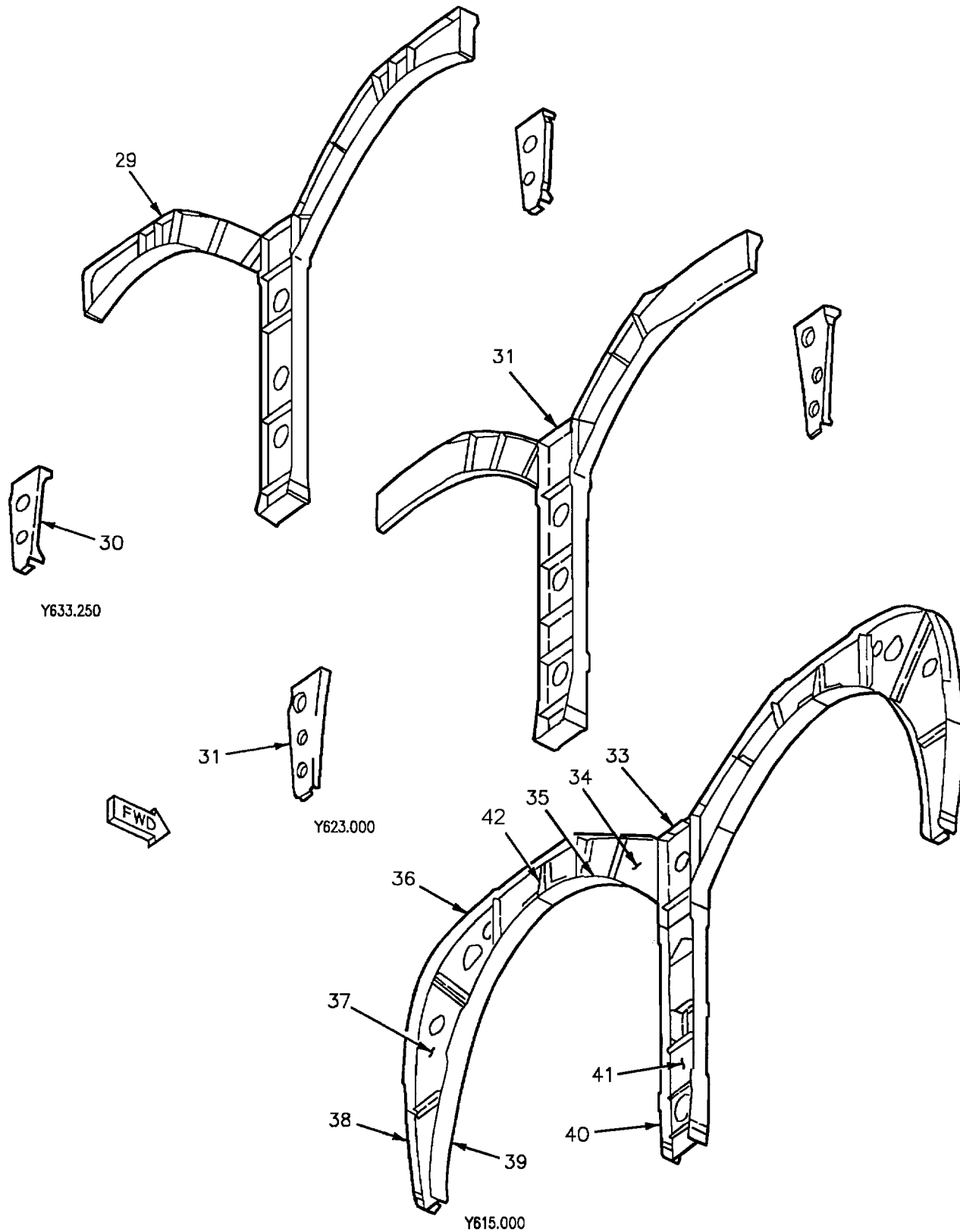


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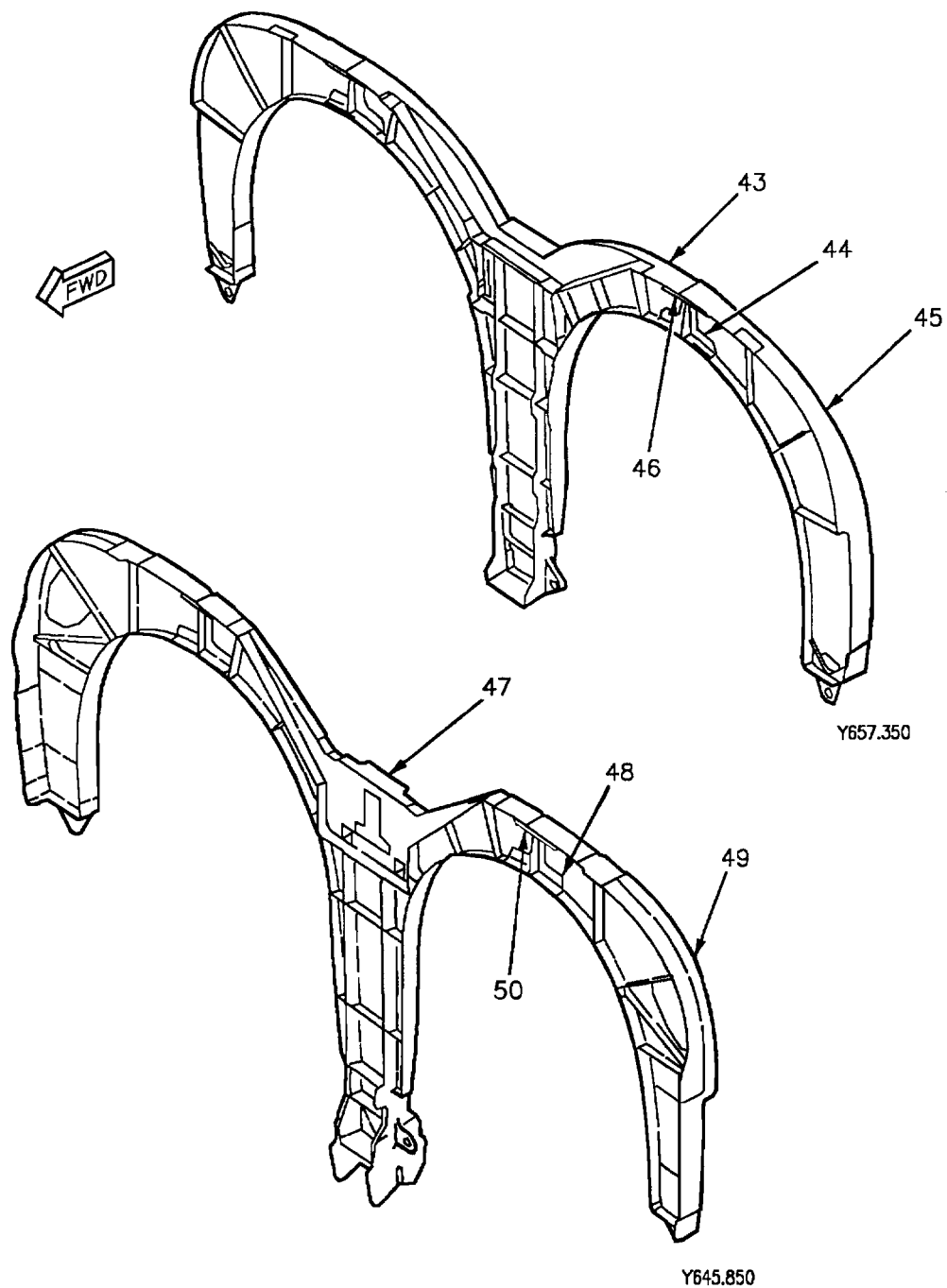


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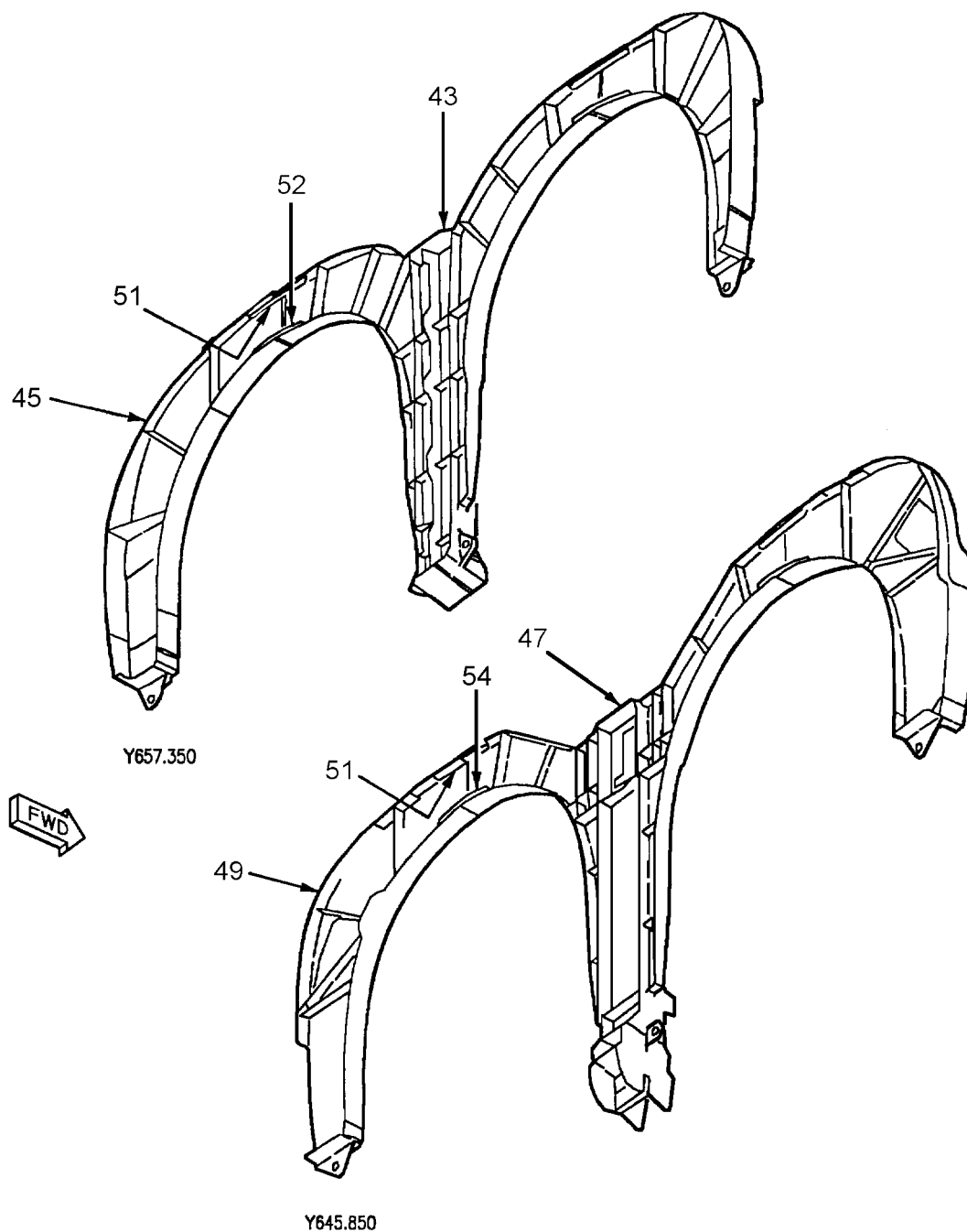


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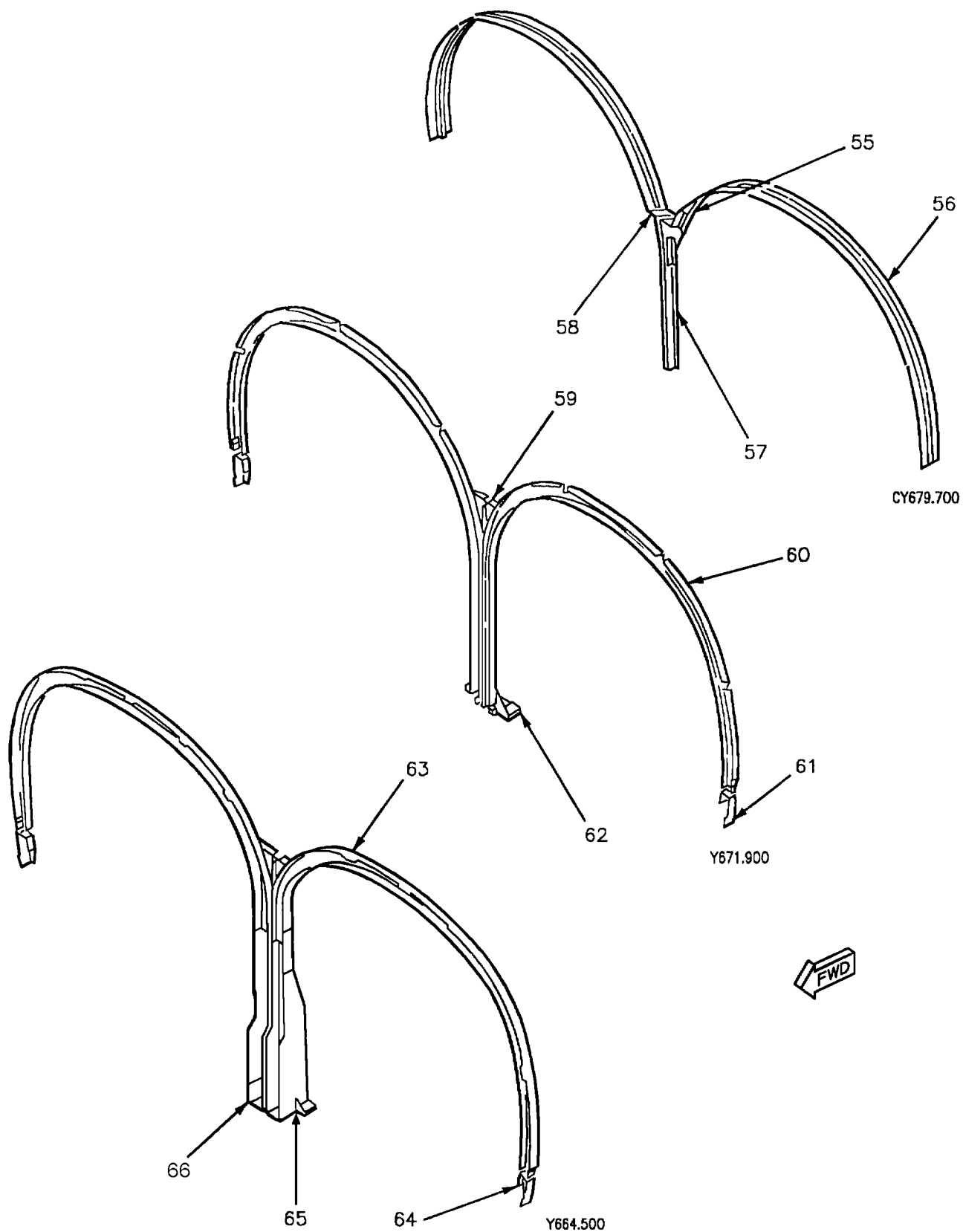


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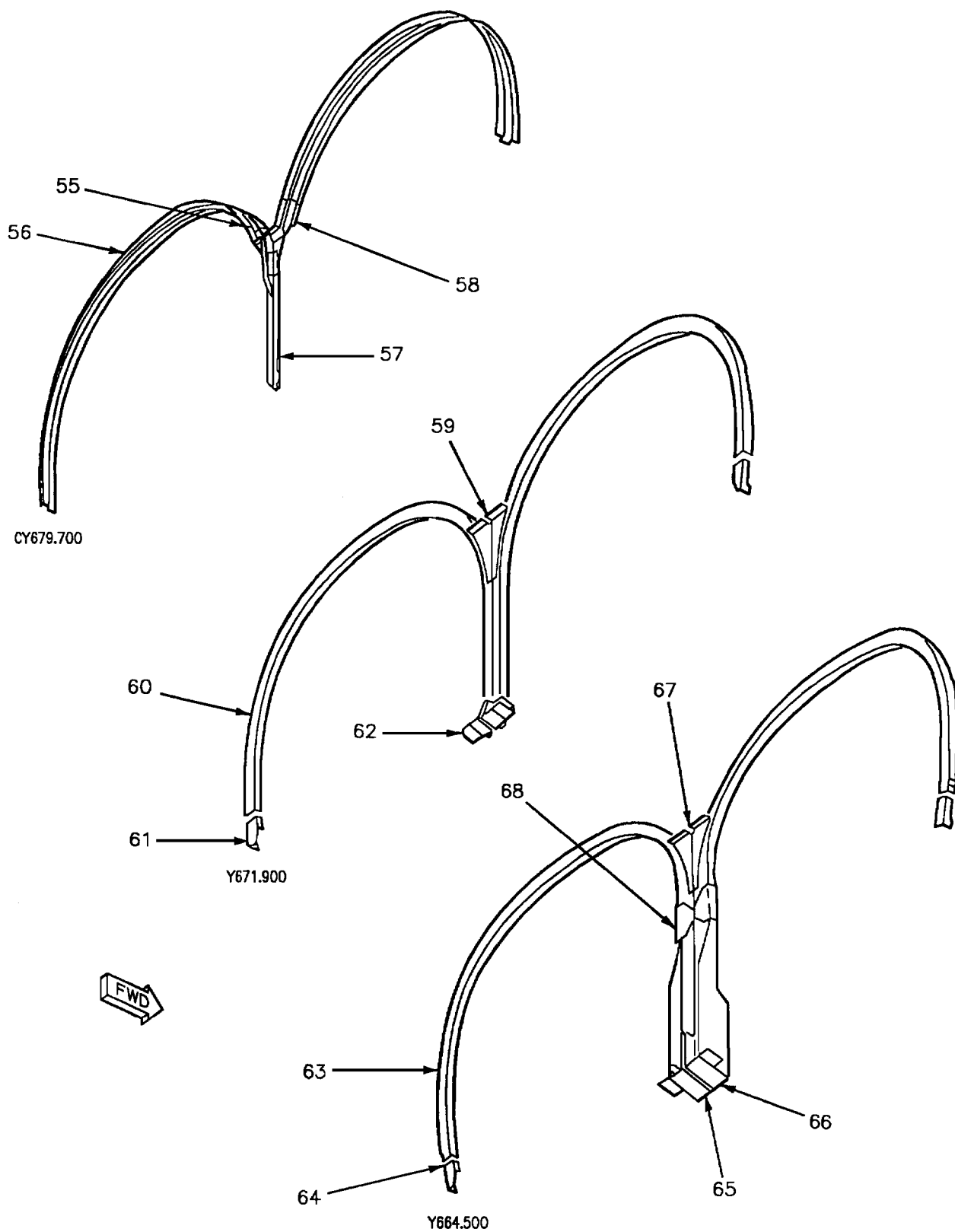


Figure 1. Material Index (Sheet 10)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Plate 74A331312-2003	Die Forging	7049-T73 Al Aly
2	<div>7</div> <div>8</div> <div>9</div> <div>36</div> <div>64</div> <div>97</div> <div>98</div> <div>101</div> <div>102</div> <div>105</div>	Former 74A332314-9003 74A332314-9005 74A332314-2007 74A332314-2011 74A332314-2013 74A332314-2015 74A332314-9007 74A332314-9009 74A332314-2021 74R330039-2001	Machined Plate	7050-T73651 Al Aly
3	<div>10</div> <div>11</div>	Plate 74A331313-9003 74A331313-2003	Forging	7049-T73 Al Aly
4	<div>4</div> <div>5</div> <div>77</div> <div>78</div> <div>106</div> <div>105</div>	Former 74A331311-2015, -2016 74A331311-2011, -2012 74A331311-2017, -2018 74A331311-2021, -2022 74A331311-2023, -2024 74R330038-2003, -2004	Die Forging	7050-T73652 Al Aly
5	<div>38</div>	Former 74A331311-2013, -2014	Die Forging	7050-T73652 Al Aly
6		Bushing NAS77-6-38	0.5013 Dia	Cad Plated Steel
7		Plate 74A331307-2003	Die Forging	7049-T73 Al Aly
8	<div>12</div> <div>13</div> <div>85</div> <div>84</div>	Former 74A332309-9001 74A332309-2007 74A332309-2011 74A332309-2013	Machined Plate	7050-T73651 Al Aly
9		Plate 74A331308-2003	Die Forging	7049-T 73 Al Aly

Figure 1. Material Index (Sheet 11)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
10	<div>4</div> <div>46</div> <div>47</div> <div>71</div> <div>72</div> <div>99</div> <div>100</div> <div>105</div>	Former 74A331306-2013, -2014 74A331306-2009 74A331306-2010 74A331306-2019 74A331306-2017,-2018 74A331306-2023,-2024 74A331306-9001,-9002 74R330038-2001,-2002	Die Forging	7052-T73652 Al Aly
11	<div>4</div> <div>39</div> <div>40</div> <div>88</div> <div>89</div>	Former 74A331301-9001, -9002 74A331301-2007, -2008 74A331301-2009, -2010 74A331301-2011, -2012 74A331301-2013, -2014	Die Forging	7050-T73652 Al Aly 7050-T7452 Al Aly
12	<div>14</div> <div>15</div> <div>96</div>	Plate 74A331659-9001 74A331659-2005 74A331659-2007	Die Forging Machined Plate	7075-T73 Al Aly 7075-T7351 Al Aly
13		Web 74A332328-2015, -2016	<div>2</div> Sheet	7075-T6 Al Aly
14	<div>86</div> <div>83</div>	Tee 74A332328-2013, -2014 74A332328-2025, -2026	1MA160D01-10283 Extr	7075-T76 Al Aly
15	<div>41</div> <div>50</div> <div>75</div>	Tee 74A331325-2001, -2002 74A331325-2035, -2036 74A331325-2039, -2040	1MA160J01-10334 Extr	7149-T73 Al Aly
16		Plate 74A331327-2003, -2004	Die Forging	7075-T73 Al Aly
17	<div>86</div> <div>83</div>	Cap 74A331325-2019, -2020 74A332328-2047, -2048	1MA160J01-10283 Extr 1MA160D06-10524 Extr	7149-T73 Al Aly 7075-T76511 Al Aly
18	<div>33</div> <div>87</div> <div>83</div>	Web 74A331325-9017, -9018 74A331325-2033, -2034 74A331325-2045, -2046	<div>1</div> Sheet 0.063 Sheet	7075-T6 Al Aly
19	<div>93</div> <div>94</div>	Cap 74A331325-2005, -2006 74A331325-2041, -2042	1MA160J01-10283 Extr	7149-T73 Al Aly

Figure 1. Material Index (Sheet 12)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
28	<div>4</div> <div>32</div> <div>43</div> <div>44</div> <div>78</div> <div>107</div> <div>108</div> <div>105</div>	Former 74A331316-2009, -2010 74A331316-2011, -2012 74A331316-9005, -9006 74A331316-2013, -2012 74A331316-2017, -2018 74A331316-2019, -2020 74A331316-2019, -2020 74R330038-2005, -2006	Die Forging Die Forging	7050-T73651 Al Aly 7050-T7452 Al Aly
29	<div>4</div> <div>57</div> <div>58</div>	Former 74A332343-2009 74A332343-2011 74A332343-2013	Machined Plate	7050-T73651 Al Aly
30	<div>4</div> <div>5</div> <div>95</div> <div>79</div>	Former 74A331340-2001, -2002 74A331340-2011, -2012 74A331340-2003, -2004 74A331340-2019, -2020	0.063 Sheet	7075-T62 Al Aly
31	<div>55</div> <div>56</div>	Former 74A332339-2007 74A332339-2009	Machined Plate	7050-T73651 Al Aly
32	<div>41</div> <div>37</div>	Former 74A331335-2007, -2008 74A331335-2009, -2010	0.063 Sheet 0.050 Sheet	7075-T62 Al Aly
33	<div>18</div> <div>19</div> <div>34</div> <div>87</div> <div>83</div>	Fitting 74A332655-2007 74A332655-9001 74A332655-9003 74A332655-2011 74A332663-2013	Die Forging Machined Plate	7075-T73 Al Aly 7075-T7351 Al Aly
34	<div>21</div> <div>34</div> <div>35</div>	Web 74A332333-2043, -2044 74A332333-9005, -9006 74A332333-2045, -2046	0.063 Sheet	7075-T6 Alclad
35	<div>86</div> <div>83</div>	Cap 74A332333-2017, -2018 74A332333-2051, -2052	1MA160D01-10378 Extr	7075-T76 Al Aly
36	<div>41</div> <div>63</div> <div>51</div> <div>79</div>	Cap 74A331661-2003, -2004 74A331661-2005, -2006 74A331661-9003, -9004 74A331661-2011, -2012	Die Forging	7075-T 73 Al Aly

Figure 1. Material Index (Sheet 13)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
37	<div>20</div> <div>42</div> <div>37</div>	Web 74A331330-9017, -9018 74A331330-2053, -2054 74A331330-2055, -2056	0.125 Sheet	7075-T76 Alclad
38	<div>41</div> <div>73</div> <div>74</div>	Tee 74A331330-2019, -2020 74A331330-2047, -2048 74A331330-2061, -2062	1MA160D01-10252 Extr	7075-T76 Al Aly
39	<div>41</div> <div>45</div> <div>83</div>	Tee 74A331330-2001, -2002 74A331330-2035, -2036 74A331330-2063, -2064	1MA160D01-10378 Extr	7075-T76 Al Aly
40		Tee 74A332333-2007, -2008	1MA160D01-10212 Extr	7075-T 76 Alclad
41		Web 74A332333-2015	0.040 Sheet	7075-T6 Alclad
42		Plate 74A331332-2003, -2004	Die Forging	7075-T73 Al Aly
43	<div>41</div> <div>45</div> <div>83</div>	Former 74A332354-2005 74A332345-2003 74A332345-2005	Forging	6Al-4V Ti Aly 7050-T736 Al Aly
44	<div>41</div> <div>37</div>	Plate 74A331347-2005, -2006 74A331357-2003, -2004	Die Forging Machined Plate	HP9-4-20 Steel 6Al-4V Ti Anl
45	<div>22</div> <div>23</div> <div>92</div> <div>84</div>	Former 74A331351-2027, -2028 74A331351-2031, -2032 74A331361-2005, -2006 74A331361-2007, -2008	Hand Forging Die Forging	HP9-4-20 Steel 6Al-4V Ti
46	<div>41</div> <div>37</div>	Plate 74A331352-2009, -2010 74A331358-2003	Hand Forging 0.100 Sheet	HP9-4-20 Steel 6Al-4V Ti Anl
47	<div>41</div> <div>59</div> <div>60</div>	Former 74A332349-2009 74A332359-2007 74A332359-2009	Die Forging	HP9-4-20 Steel 6Al-4V Ti
48	<div>41</div> <div>37</div>	Plate 74A331347-2003, -2004 74A331357-2001, -2002	Die Forging Machined Plate	HP9-4-20 Steel 6Al-4V Ti Anl

Figure 1. Material Index (Sheet 14)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
49	<div>24</div> <div>25</div> <div>92</div> <div>84</div>	Former 74A331346-2015, -2016 74A331346-2019, -2020 74A331356-2005, -2006 74A331356-2007, -2008	Hand Forging Die Forging	HP9-4-20 Steel 6Al-4V Ti
50	<div>41</div>	Plate 74A331352-2011, -2012	<div>6</div> Hand Forging	HP9-4-20 Steel
51	<div>41</div> <div>37</div>	Plate 74A331348-2019 74A331362-2003, -2004	Forging 0.080 Sheet	HP9-4-20 Steel 6Al-4V Ti Anl
52	<div>41</div> <div>37</div>	Plate 74A331348-2023 74A331358-2005	Forging 0.100 Sheet	HP9-4-20 Steel 6Al-4V Ti Anl
53	<div>41</div> <div>37</div>	Plate 74A331348-2017 74A331362-2001, -2002	Forging 0.080 Sheet	HP9-4-20 Steel 6Al-4V Ti Anl
54	<div>41</div> <div>37</div>	Plate 74A331348-2021 74A331358-2001	Forging 0.100 Sheet	HP9-4-20 Steel 6Al-4V Ti Anl
55	<div>41</div> <div>37</div>	Bracket 74A333504-2001 74A333504-2003	Machined Plate Machined Bar	2219-T851 Al Aly 7075-T73511 Al Aly
56	<div>41</div> <div>37</div>	Former 74A333370-2001, -2002 74A333370-2003, -2004	1MA10364B01 Extr 1MA10507D01 Extr	2024-T62 Al Aly 7075-T62 Al Aly
57	<div>26</div> <div>26</div> <div>27</div> <div>37</div>	Stringer 74A333510-2001 74A333510-2002 74A333510-2003, -2004 74A333524-2001	1MA160B04-10054 Extr 1MA160B01-10054 Extr 0.032 Sheet	2024-T8511 Al Aly 2024-T62 Al Aly 6Al-4V Ti Anl
58	<div>41</div> <div>76</div> <div>70</div>	Bracket 74A333505-2001 74A333505-9001 74A333505-2005	Machined Plate Machined Bar	2219-T851 Al Aly 7075-T73511 Al Aly
59	<div>41</div> <div>37</div>	Bracket 74A333365-2007, -2005 74A333365-2015	0.063 Sheet 0.040 Sheet	2024-T72 Alclad 2024-T72 Alclad
60	<div>41</div> <div>66</div> <div>67</div> <div>82</div> <div>79</div>	Former 74A333365-2003, -2001 74A333365-9003, -9001 74A333365-9007, -9005 74A333365-9011, -9009 74A333365-2035, -2033	0.080 Sheet 0.063 Sheet	2024-T72 Alclad 7075-T62 Alclad

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
































Idx No.	Eft	Nomenclature and Part No.	Description	Material
61		Fitting 74A333898-2001, -2002	Machined Plate	2219-T851 Al Aly
62	 	Bracket 74A333543-2005, -2006 74A333543-9001,-9002	Machined Plate	2219-T851 Al Aly
63	  	Former 74A333360-2003, -2001 74A333360-2009, -2010 74A333360-2015, -2016	0.090 Sheet 0.063 Sheet 0.050 Sheet	2024-T72 Alclad 7075-T62 Alclad
64		Bracket 74A333899-2001, -2002	Machined Plate	2219-T851 Al Aly
65	 	Support Segment 74A333507-2001 74A333507-2003	Machined Plate Machined Bar	2219-T851 Al Aly 7049-T73511 Al Aly
66	 	Support Segment 74A333508-2001 74A333508-2003	Machined Plate Machined Bar	2219-T851 Al Aly 7049-T73511 Al Aly
67		Bracket 74A333360-2007, -2005	0.063 Sheet	2024-T72 Alclad
68		Bracket 74A333881-2003	0.125 Sheet	2024-T72 Alclad
<p style="text-align: center;">LEGEND</p> <p> 0.063 sheet, machined to 0.030 in area shown.</p> <p> 0.063 sheet, machined to 0.050 in hydraulic line area.</p> <p> 0.050 sheet, machined to 0.030 except around cutout for fire extinguisher.</p> <p> 161353 THRU 161361.</p> <p> 161362 THRU 161761.</p> <p> 0.070, 301-1/2H steel sheet shim required between plate and structure.</p> <p> 161353 THRU 161519.</p> <p> 161520 THRU 161707.</p> <p> 161708 THRU 161741.</p> <p> 161353 THRU 161708.</p> <p> 161709 AND UP.</p> <p> 161353 THRU 161520.</p> <p> 161521 THRU 161965.</p> <p> F/A-18A 161353 THRU 161709; F/A-18B 161354 THRU 161704.</p> <p> F/A-18A 161710 THRU 163101; F/A-18B 161707 THRU 162885.</p> <p> 161353 THRU 161366; 161707 THRU 161965.</p> <p> 161367 THRU 161706.</p> <p> F/A-18A 161353 THRU 161362.</p> <p> F/A-18A 161363, F/A-18B 161354 THRU 161360.</p> <p> 161353 THRU 161741.</p>				

Figure 1. Material Index (Sheet 16)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
21		161353 THRU 161363.		
22		161353 THRU 161704.		
23		161705 THRU 161761.		
24		161353 THRU 161711.		
25		161712 THRU 161761.		
26		161353 THRU 161705.		
27		161706 THRU 161761.		
28		161353 THRU 161712.		
29		161353 THRU 161714.		
30		161713 THRU 161741, 161932 THRU 161940.		
31		161715 THRU 161741, 161930 THRU 161937.		
32		F/A-18A 161362 THRU 161525, F/A-18B 161727.		
33		161353 THRU 161719.		
34		161364 THRU 161719.		
35		161720 AND UP.		
36		161742 THRU 161965.		
37		161924 AND UP.		
38		161362 THRU 162477.		
39		161362 THRU 161733.		
40		161734 THRU 162477.		
41		161353 THRU 161761.		
42		161742 THRU 161761.		
43		F/A-18A 161526 THRU 161731, F/A-18B 161704 THRU 161723.		
44		161732 THRU 162441.		
45		161924 THRU 162477.		
46		161362 THRU 161731.		
47		161362 THRU 161761.		
48		161924 THRU 161931.		
49		161932 THRU 161940.		
50		161924 THRU 162411.		
51		161930 THRU 162444.		
52		161932 THRU 161937.		
53		161353 THRU 161952.		
54		161953 AND UP.		
55		161353 THRU 161953.		
56		161954 AND UP.		
57		161362 THRU 161944.		
58		161945 AND UP.		
59		161924, 161925.		
60		161926 AND UP.		
61		161941 THRU 161944.		
62		161938 THRU 161944.		
63		161924 THRU 161929.		
64		161966 THRU 162477.		
65		161353 THRU 161965.		

Figure 1. Material Index (Sheet 17)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
66		161924 THRU 161961.		
67		161962 THRU 161987.		
68		161924 THRU 161970.		
69		161971 AND UP.		
70		162394 AND UP.		
71		161732 THRU 161761, 161926 THRU 161928.		
72		161924, 161925, 161929 THRU 162477.		
73		161924 THRU 162415.		
74		162416 AND UP.		
75		162412 AND UP.		
76		161924 THRU 161987.		
77		161924 THRU 162441.		
78		162442 THRU 162477.		
79		162445 AND UP.		
80		161945 THRU 162444.		
81		162445 THRU 162477.		
82		162394 THRU 162444.		
83		162826 AND UP.		
84		162477 AND UP.		
85		161966 THRU 162476.		
86		161353 THRU 162477.		
87		161720 THRU 162477.		
88		162826 THRU 162834.		
89		162835 AND UP.		
90		162826 THRU 162870.		
91		162871 AND UP.		
92		161924 THRU 162476.		
93		161353 THRU 162852.		
94		162853 AND UP.		
95		161924 THRU 162444.		
96		163102 AND UP.		
97		162826 THRU 162881 BEFORE F/A-18 IAFC 119.		
98		162882 THRU 163118 BEFORE F/A-18 IAFC 119.		
99		162826 THRU 162900 BEFORE F/A-18 IAFC 119.		
100		162901 AND UP BEFORE F/A-18 IAFC 119.		
101		163119 THRU 163145 BEFORE F/A-18 IAFC 119.		
102		163146 AND UP BEFORE F/A-18 IAFC 119.		
103		161353 THRU 163165.		
104		163166 AND UP.		
105		162826 AND UP AFTER F/A-18 IAFC 119.		
106		162826 AND UP BEFORE F/A-18 IAFC 119.		
107		162826 THRU 162870 BEFORE F/A-18 IAFC 119.		
108		162871 AND UP BEFORE F/A-18 IAFC 119.		

Figure 1. Material Index (Sheet 18)

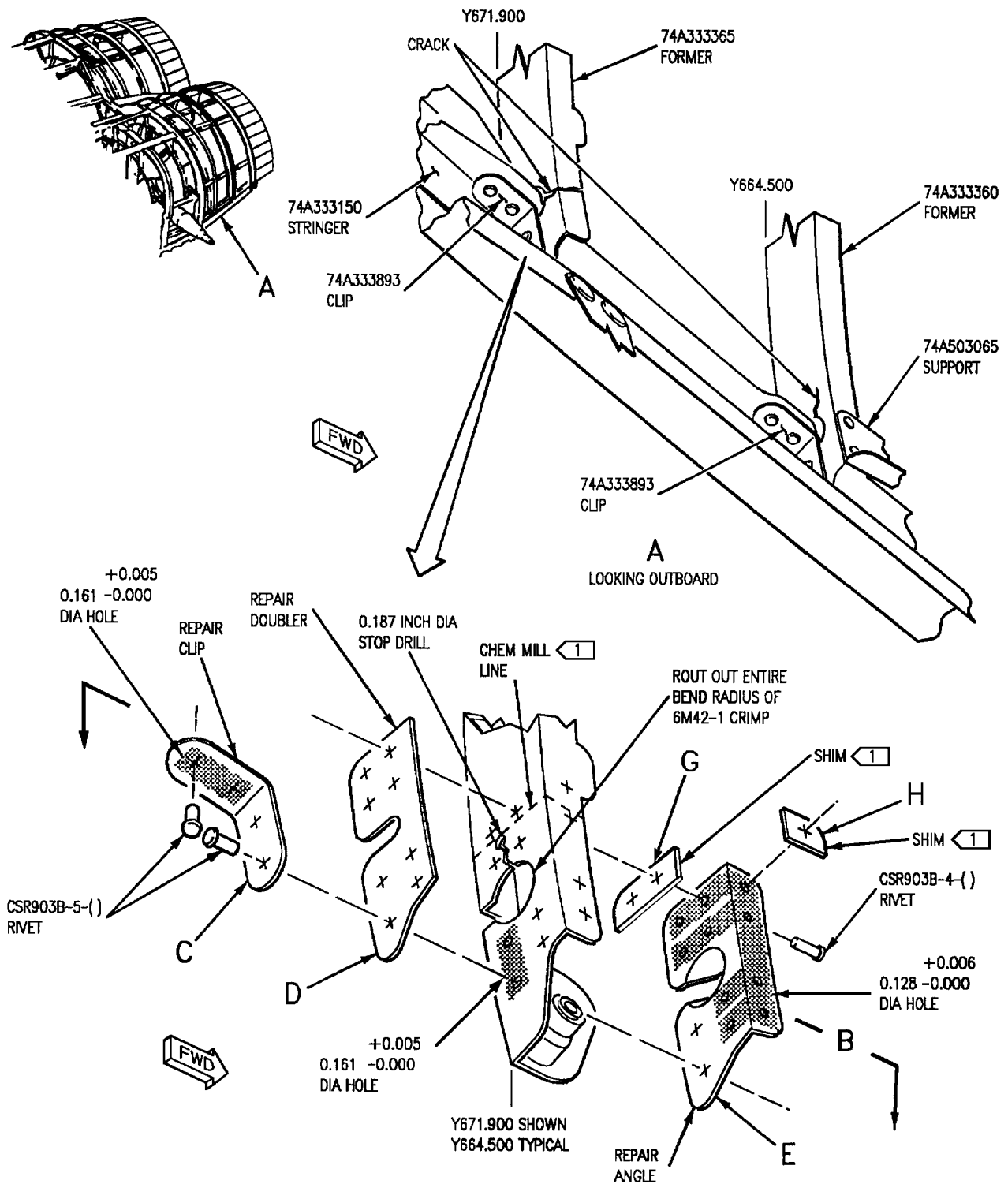


Figure 2. Formers Y664.5 and Y671.9 Repair (Sheet 1)

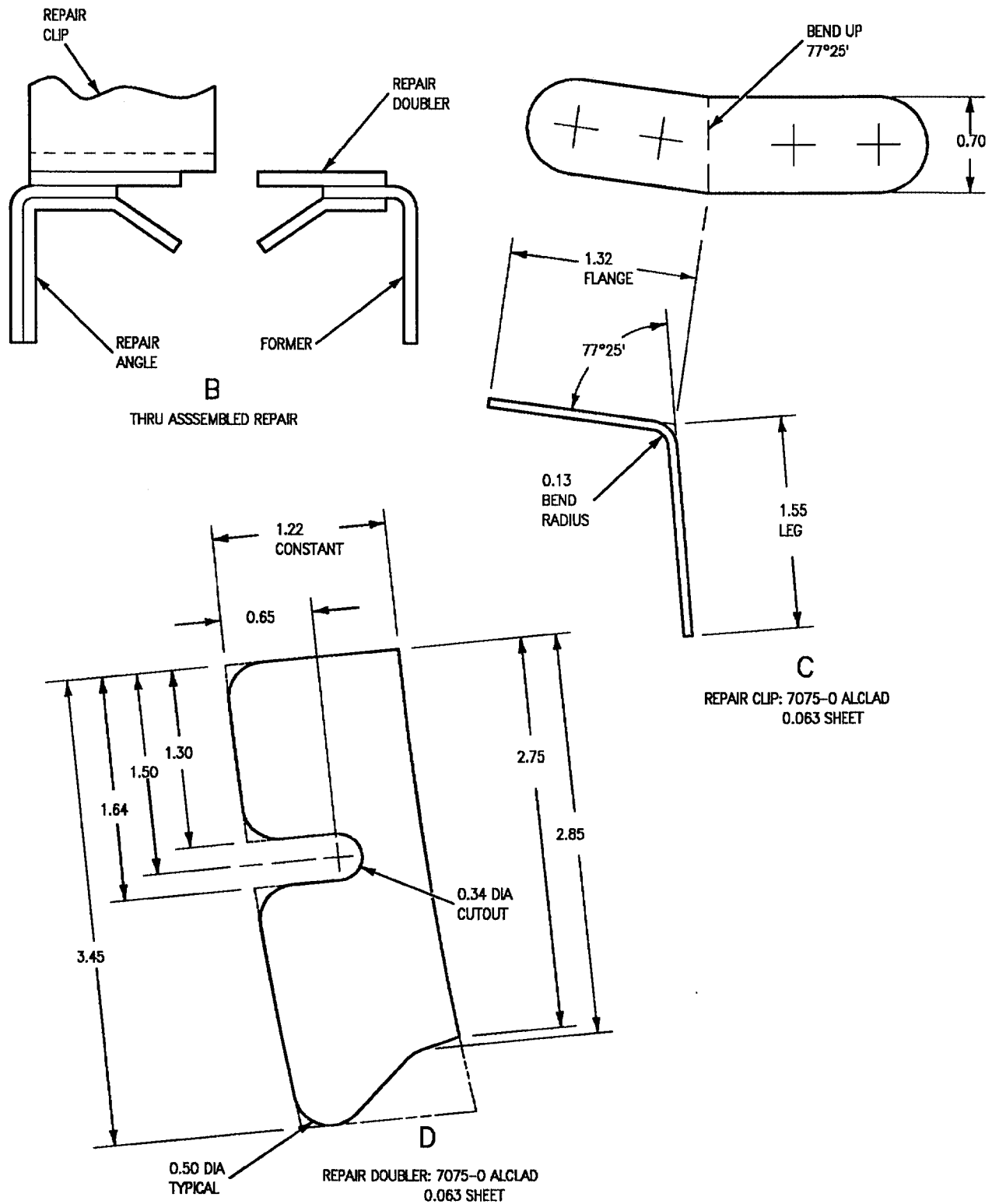


Figure 2. Formers Y664.5 and Y671.9 Repair (Sheet 2)

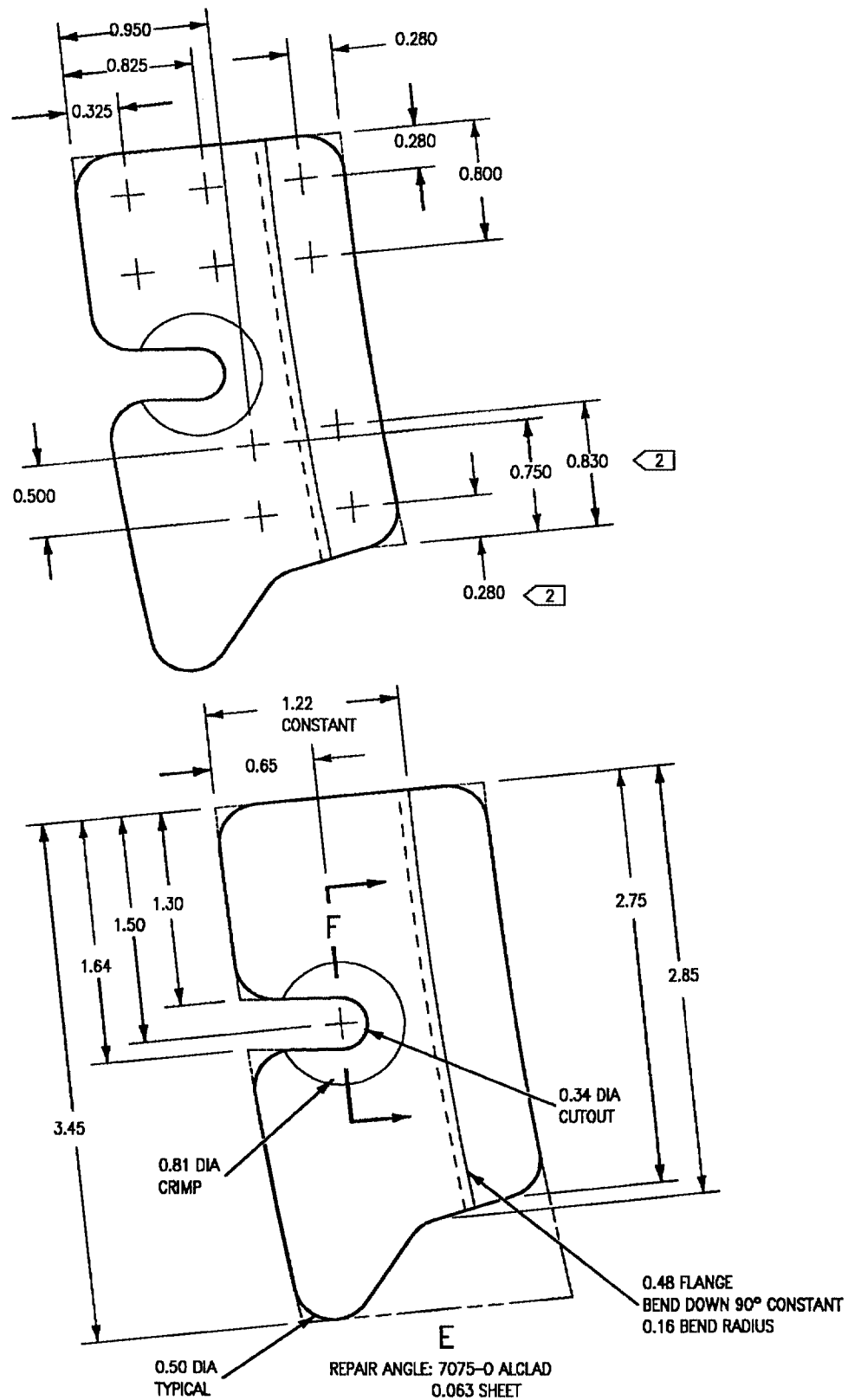
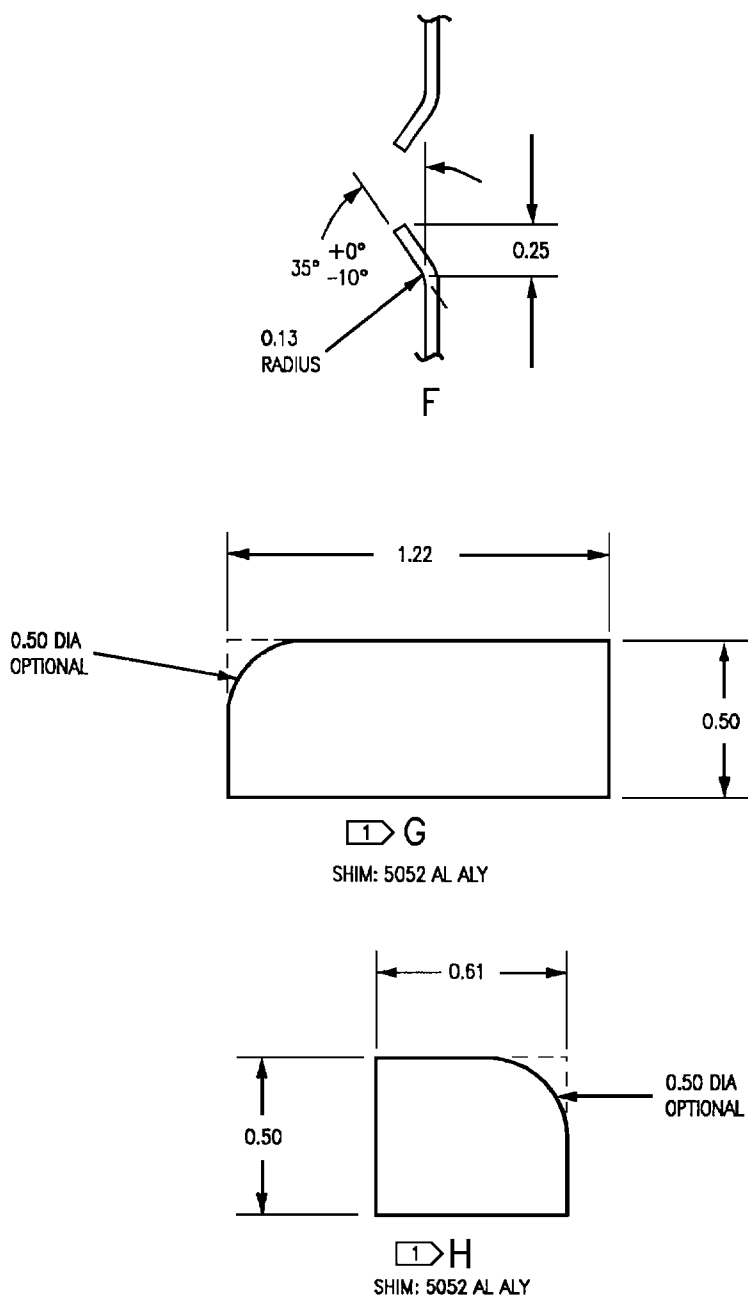


Figure 2. Formers Y664.5 and Y671.9 Repair (Sheet 3)



LEGEND

- 1 APPLICABLE FOR Y664.500 FORMER ON 161924 THRU 161970;
APPLICABLE FOR Y671.900 FORMER ON 161924 THRU 161987.
- 2 HOLES ARE BACK DRILLED ON Y664.500 FORMER AND
DRILLED TO LOCATION SHOWN ON Y671.900 FORMER.

Figure 2. Formers Y664.5 and Y671.9 Repair (Sheet 4)

DEPOT MAINTENANCE**STRUCTURE REPAIR****AFT FUSELAGE STUB FRAME ALIGNMENT DEVICE****RE174331000-1,-2, INSTALLATION AND COMPONENT REPLACEMENT**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Forward Engine Access Door (Door 64)	WP017 00
Center Engine Access Door (Door 68)	WP019 00
Combined Aft and Center Engine Access Door (Door 68) Effectivity: 161742 AND UP	WP019 01
Vertical Stabilizer Removal and Installation Maintenance Fixtures RE174000010-1, and Holding Fixture RE174000010-1, and Hoisting Adapter 74D110135	WP026 02
Line Maintenance Access Doors	A1-F18AC-LMM-010
Line Maintenance Procedures	A1-F18AC-LMM-000
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation-Engine	WP003 00
Mount Link, Aft	WP093 00

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Aircraft Preparation Down For Repair	2
Installation of Alignment Device Onto Aircraft	2
Installation of Details 170, 171, 172, 173, 174 and Subassemblies E, F, G, H, and J	3
Installation of Subassembly D to 74A331115 Lower Outboard Longerons	3
Preparation of Alignment Device for Installation Onto Aircraft	2
Removal of RE174331000-1, -2 Alignment Device	4
Aircraft Preparation Up For Flight Status	5
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Removal of Details 170, 171, 172, 173, 174 and Subassemblies E, F, G, H, and J	4
Removal of Subassembly D from 74A331115 Lower Outboard Longerons	4

Record of Applicable Technical Directives

None

1. INSTALLATION AND USE OF RE174331000-1,-2 ALIGNMENT DEVICE. See figure 1.

2. This procedure will index the alignment device for any former and side panel replacement, left or right side. Select only those subassemblies and details necessary to replace specific formers or side panel.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Alignment Device, Aft Fuselage Stub Frame	RE174331000-1, -2
Hoist, Overhead	1262AS100-1

Materials Required

None

3. AIRCRAFT PREPARATION DOWN FOR REPAIR.

a. Make sure electrical and hydraulic power are removed from aircraft (A1-F18AC-LMM-000).

b. Remove vertical stabilizer per WP026 02, if required.

c. Remove RE174000010-1, Vertical Stabilizer Holding Fixture, per WP026 02, if required.

d. Remove doors 63, 75, 67 and 70 (A1-F18AC-LMM-010).

e. Open door 74 on 161353 THRU 161741 (A1-F18AC-LMM-010).

f. Remove door 68 on 161353 THRU 161741 (WP019 00), on 161742 AND UP (WP019 01).

g. Remove door 64 (WP017 00).

h. Remove engines (A1-F18AC-270-300, WP003 00).

i. Remove aft engine mount link (A1-F18AC-270-300, WP093 00).

4. PREPARATION OF ALIGNMENT DEVICE FOR INSTALLATION ONTO AIRCRAFT.

a. Remove socket head cap screw (detail 119) from subassemblies B and C; remove subassemblies B and C from subassembly A, see details A and B.

b. Remove 20 shoulder screws (detail 154) and 10 T-pins (detail 156) from subassemblies E, F, G, H, and J; remove subassemblies E, F, G, H, and J from subassembly A. See detail E.

c. Remove socket head cap screws (detail 119), washer (detail 120) and T-pins (detail 156) from angles (details 170, 171, 172, 173, and 174); remove angles (details 170, 171, 172, 173, and 174) from subassembly A. See detail D.

d. Retract torque screw (detail 108) as far as possible. See detail G.

5. INSTALLATION OF ALIGNMENT DEVICE ONTO AIRCRAFT.

a. Attach hoisting cables to hoisting rings (detail 106), three places. See sheet 1.

NOTE

Torque screw (detail 108) must clear forward flange of 74A332162 support beam. See detail G.

b. Using overhead hoist, position subassembly A over aircraft. Slowly lower subassembly A, taking care to insert angle (detail 109) into the slot in the 74A332162 aft engine mount support beam. See detail G.

c. Install quick release pin (detail 110) through the aft side of the bushings in the 74A332162 support beam and into the spherical bearing (detail 111) in angle (detail 109). See detail G.

d. Continue to lower subassembly A until pads (detail 132) rest on Y557.500 bulk head. See sheet 2.

e. Disconnect and remove overhead hoist.

f. From inside the engine bay, install subassembly B by positioning dowels (detail 116) on subassembly B onto steel plate (detail 118). Secure with washer (detail 120) and socket head cap screw (detail 119). See detail B.

g. From inside the engine bay, install subassembly C by positioning dowels (detail 116) on

subassembly C onto steel plate (detail 118). Secure with washer (detail 120) and socket head cap screw (detail 119). See detail A.

NOTE

Adjust the two hand knobs (detail 129) for up and down positioning. See sheet 1.

h. Attach forward end of alignment device to Y557.500 bulkhead by inserting T-pins (details 114 and 115) through mating holes in subassemblies B and C and tooling holes in Y557.500 bulk head. See details A and B.

i. Turn torque screw (detail 108) to push against the forward web of support beam (74A332162), moving subassembly A forward until the forward face of subassemblies B and C contact the aft surface of Y557.500 bulkhead. See details A, B, and G.

6. INSTALLATION OF DETAILS 170, 171, 172, 173, 174, AND SUBASSEMBLIES E, F, G, H, AND J.

NOTE

It may be necessary to adjust subassembly A aft in order to install details 170, 171, 172, 173, and 174. After these details are installed, return subassembly A to indexed position before making adjustments to secure assemblies.

a. Install angles (detail 170, 171, 172, and 173) on subassembly A by inserting two socket head cap screws and washers (detail 119 and 120) into mating holes in angle and subassembly A. Do not tighten. See sheet 2 and detail D.

b. Slide angle (detail 170, 171, 172, and 173) forward until face of angle (detail 170, 171, 172, and 173) contacts aft surface of stub frame web. See detail D.

c. Install detail 174 on ships 161353 THRU 162477 with plate (detail 175) installed between detail 174 and 74A331321 former. On ships 162826 AND UP, detail 174 should be net to 74A331321 former. See detail J.

d. Lock toggle clamp (detail 144) to secure angle (detail 170, 171, 172, 173, and 174) to aft surface of stub frame web. See detail D.

e. Tighten two socket head cap screws (detail 119) to secure angle (detail 170, 171, 172, 173, and 174) to stub frame web. See detail D.

NOTE

If it is necessary to install subassemblies F and H, 74A330740 skins must be removed.

f. Install subassemblies E, F, G, H, and J by inserting shoulder screws (detail 154) and T-pins (detail 156) into holes in angle (detail 152) and mating holes in subassembly A. Do not tighten. See detail E.

g. Install subassembly J on ships 161353 THRU 162477, with spacer (detail 168) installed between bushing (detail 167) and 74A331321 former. On ships 162826 AND UP, bushing (detail 167) on subassembly J should be net to 74A331321 former. See detail H.

h. From inside engine bay, adjust weld assembly (detail 16, 17, 18, 19, and 20) to allow threaded pin (detail 133) to be inserted through the stub frames into weld assembly (detail 16, 17, 18, 19, and 20). See details E and F.

i. Hand tighten threaded pin (detail 133). See detail F.

j. Tighten shoulder screws (detail 154) to secure subassemblies E, F, G, H, and J in place. See detail E.

k. Using torque screw (detail 108), move subassembly A to indexed position. See details A, B, and G.

7. INSTALLATION OF SUBASSEMBLY D TO 74A331115 LOWER OUTBOARD LONGERON.

NOTE

Verify that T-pin (detail 142) five places, is installed in four plates (detail 146) and plate (detail 147) before installing subassembly D. See detail K.

a. Raise subassembly D until teflon pads (details 136 and 137), three places, contact underside of 74A331115 lower outboard longeron. See detail K.

b. Slide subassembly D outboard until the two shoulder screws (detail 182) index to the inboard flange of 74A331115 longeron. See detail K.

c. Slide subassembly D forward until face of plates (details 148 and 149) contacts the surface of former, then secure plates (details 148 and 149) to formers with C-clamps. See detail K.

d. Install the two socket head cap screws (detail 134) and two washers (detail 178) through 74A331115 longeron into teflon pads (detail 136), and into subassembly D. See detail K.

e. Install plate (detail 162) with socket head cap screws (detail 134) through 74A331115 longeron into subassembly D. See detail K.

f. Verify that gap does not exceed 0.002 inch between socket head cap screws (detail 134), teflon pads (details 136 and 137), two shoulder screws (detail 182) and the 74A331115 longeron. Also between plates (detail 148 and 149) and their respective formers. See detail K.

g. Verify that gap does not exceed 0.005 inch between forward edge of angle (detail 181) and aft surface of 74A324320 bulkhead. See details K and L.

8. REMOVAL OF RE174331000-1, -2 ALIGNMENT DEVICE. See figure 1.

9. REMOVAL OF SUBASSEMBLY D FROM 74A331115 LOWER OUTBOARD LONGERON.

NOTE

Support subassembly D before releasing toggle clamps and removing socket head cap screws.

a. Remove C-clamps from plate (details 148 and 149) and formers. See detail K.

b. Remove socket head cap screws (detail 134) and plate (detail 162) from 74A331115 longeron. See detail K.

c. Slide subassembly D aft and inboard. Lower subassembly D and remove from aircraft.

10. REMOVAL OF DETAILS 170, 171, 172, 173, 174 AND SUBASSEMBLIES E, F, G, H, AND J.

a. Retract torque screw (detail 108) as far as possible. See detail G.

b. Loosen shoulder screws (detail 154) in subassemblies E, F, G, H, and J. See detail E.

c. Remove threaded pin (detail 133) from subassemblies E, F, G, H, and J. See details E and F.

d. Remove shoulder screws (detail 154) from weld assembly (detail 16, 17, 18, 19, and 20). Remove subassemblies E, F, G, H, and J from subassembly A. See detail E.

e. Remove socket head cap screws (detail 119) from angle (detail 170, 171, 172, 173, and 174). See detail D.

f. Release toggle clamps (detail 144) on angles (detail 170, 171, 172, 173, and 174). See detail D.

g. Remove two socket head cap screws (detail 120) and T-pins (detail 156) from each angle (detail 170, 171, 172, 173, and 174). Remove angle (detail 170, 171, 172, 173, and 174) from subassembly A. See detail D.

11. REMOVAL OF ALIGNMENT DEVICE.

a. Retract torque screw (detail 108) as far as possible. See detail G.

b. Remove T-pins (details 114 and 115) from 74A324230 bulkhead and subassemblies B and C. See detail A and B.

c. From inside engine bay, remove washer (detail 120) and socket head cap screw (detail 119) from subassemblies B and C. Remove subassemblies B and C from subassembly A. See detail A and B.

d. Connect overhead hoist.

e. Remove quick release pin (detail 110) from 74A332162 support beam and angle (detail 109). See detail G.

NOTE

Torque screw (detail 108) must clear forward flange of 74A332162 support beam. See detail G.

f. Using overhead hoist, slowly raise subassembly A from aircraft.

12. AIRCRAFT PREPARATION UP FOR FLIGHT STATUS.

a. Install vertical stabilizer (WP026 02), if required.

b. Remove RE174000010 vertical stabilizer holding fixture (WP026 02), if required.

c. Install aft engine mount link (A1-F18AC-270-300,WP093 00).

d. Install engines (A1-F18AC-270-300, WP003 00).

e. Install door 68 on 161353 THRU 161741 (WP019 00), on 161742 AND UP (WP019 01).

f. Close door 74 on 161353 THRU 161741 (A1-F18AC-LMM-010).

g. Install door 64 (WP017 00).

h. Install doors 63, 75, 67 and 70 (A1-F18AC-LMM-010).

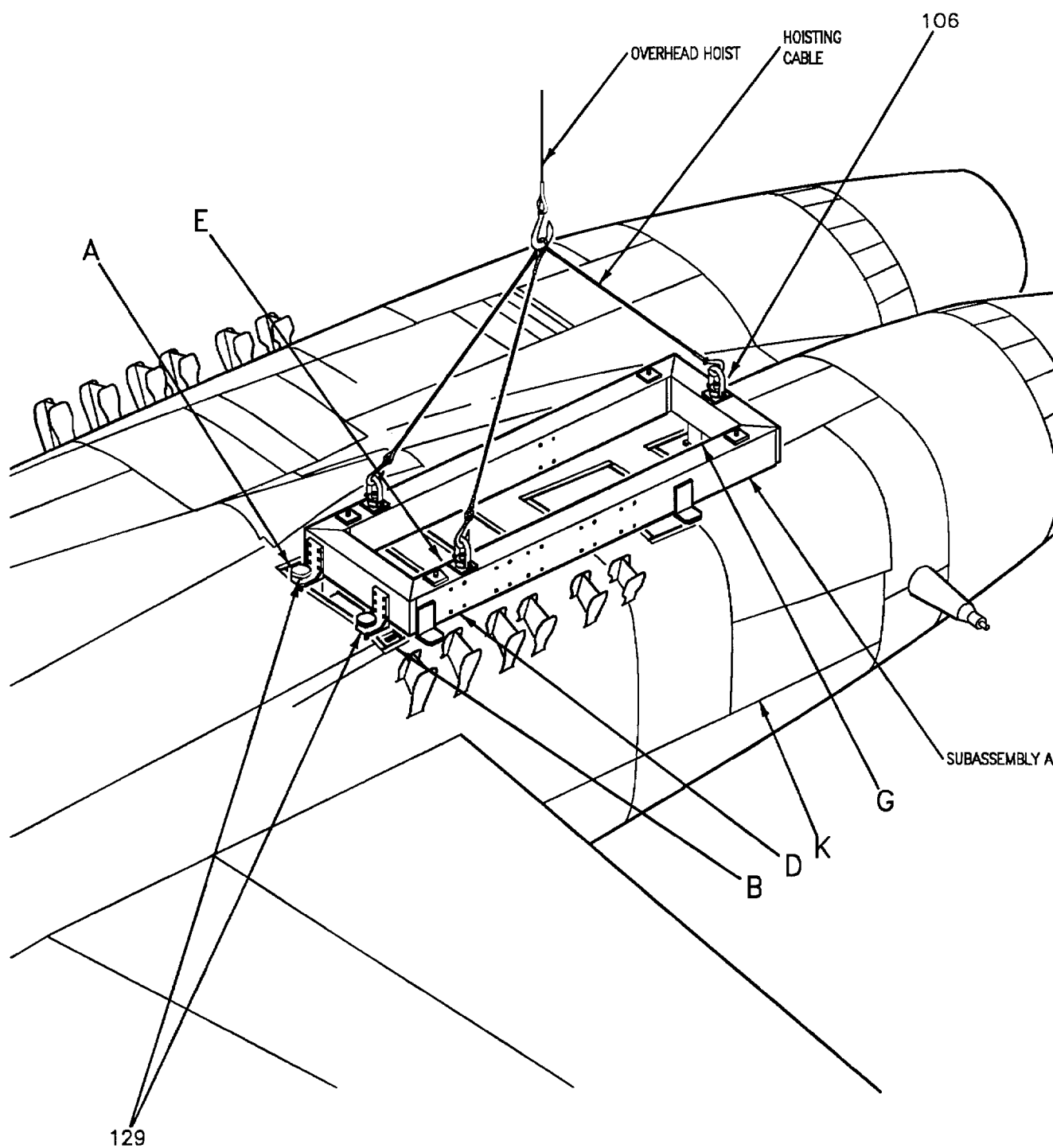


Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 1)

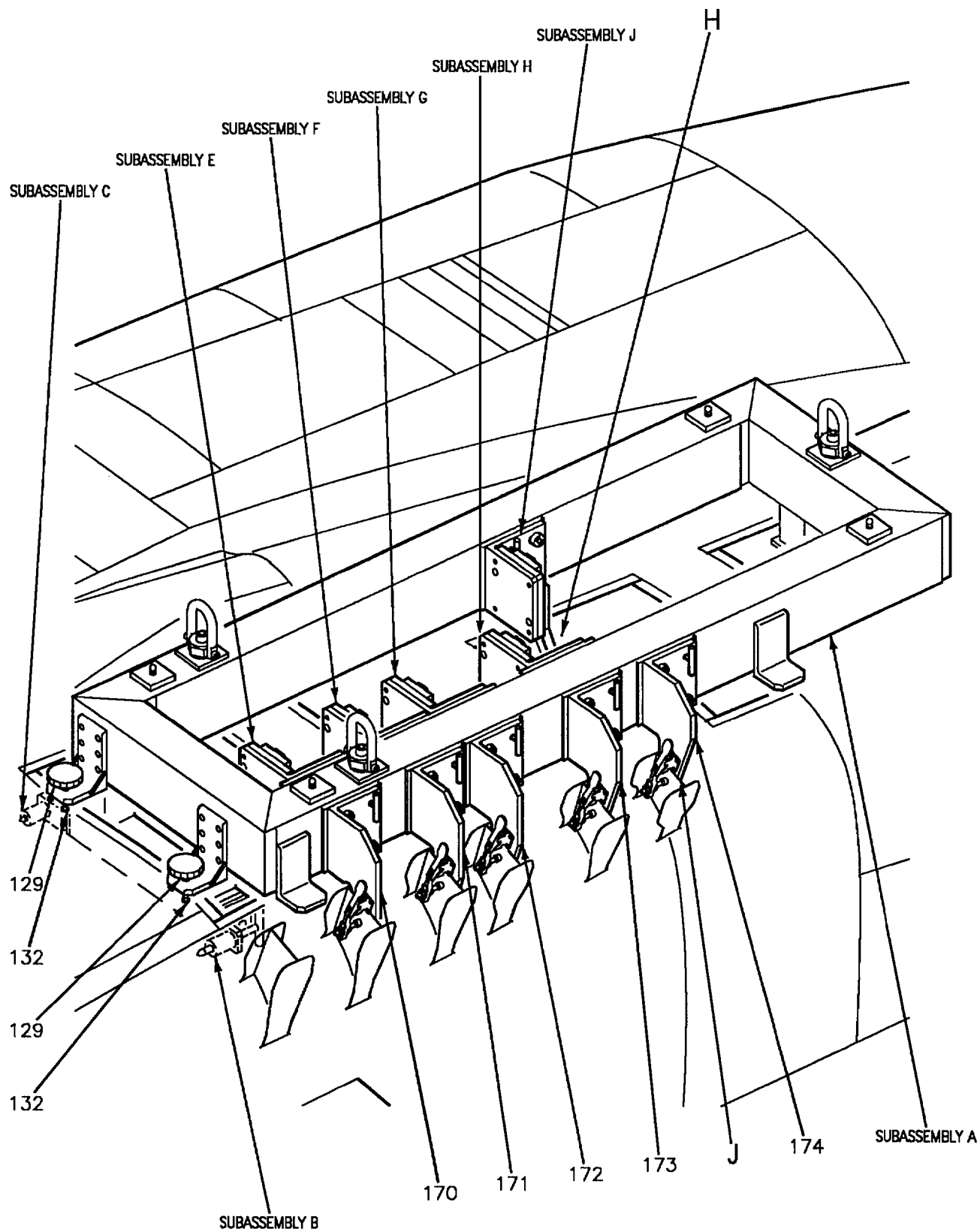


Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 2)

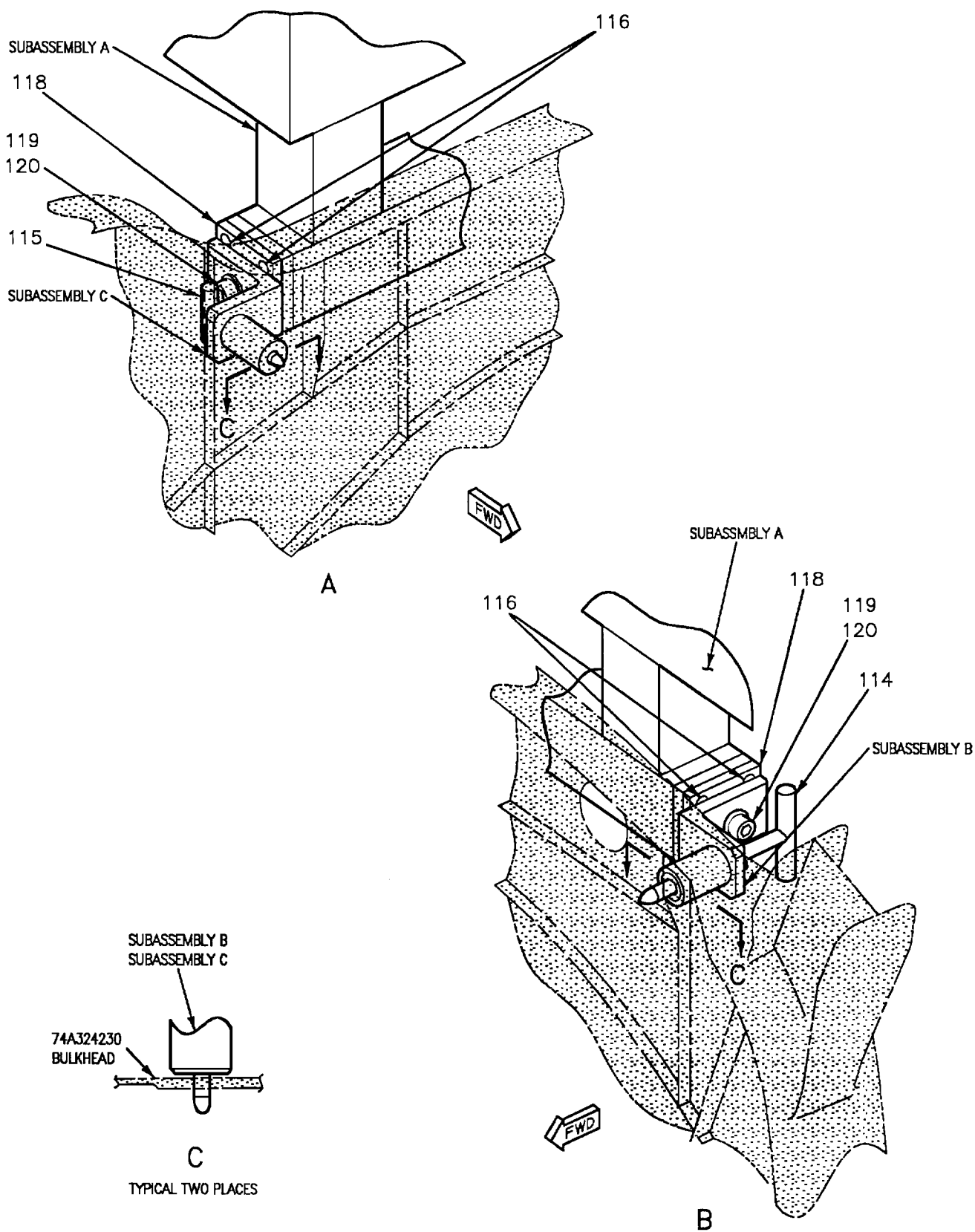


Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 3)

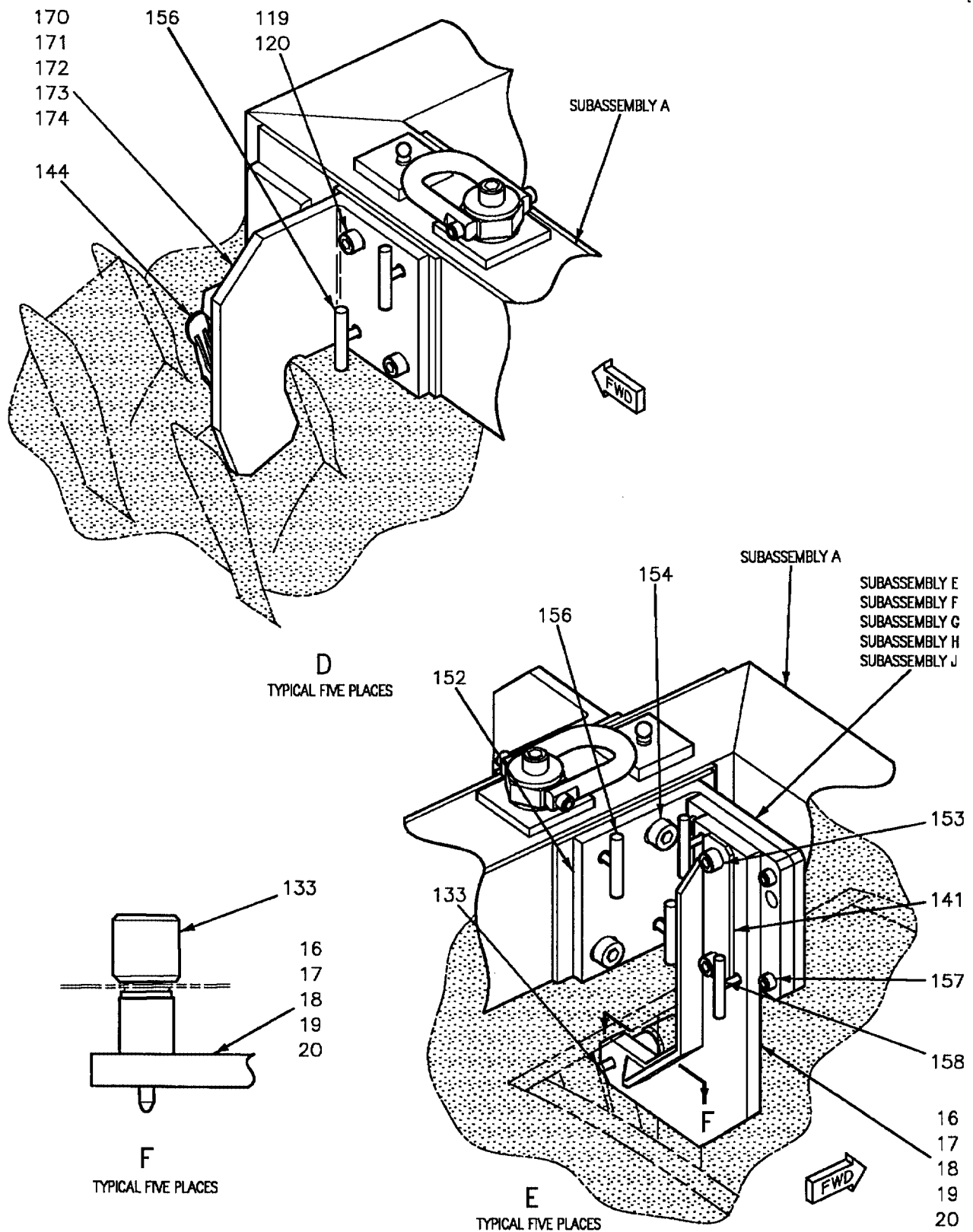


Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 4)

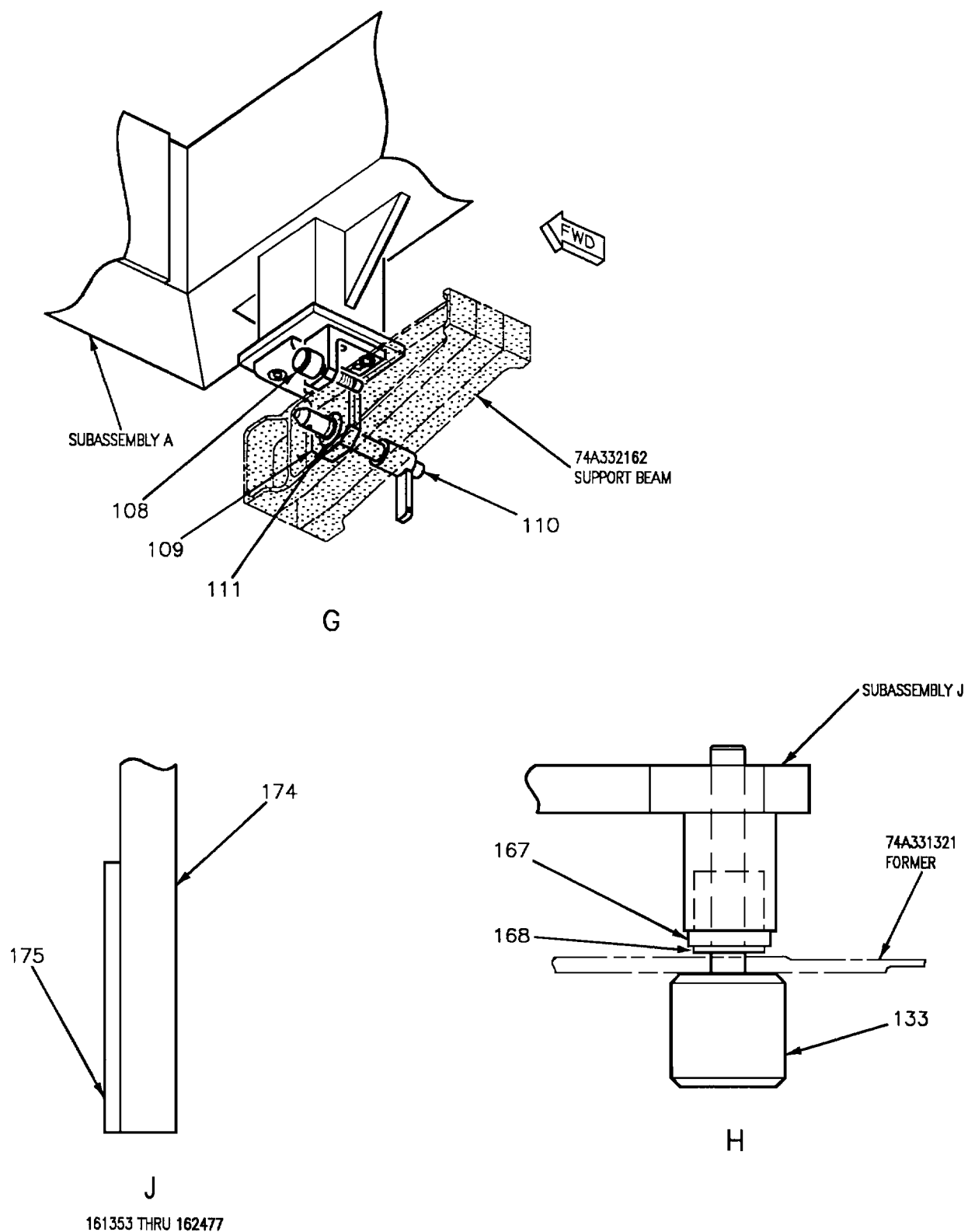


Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 5)

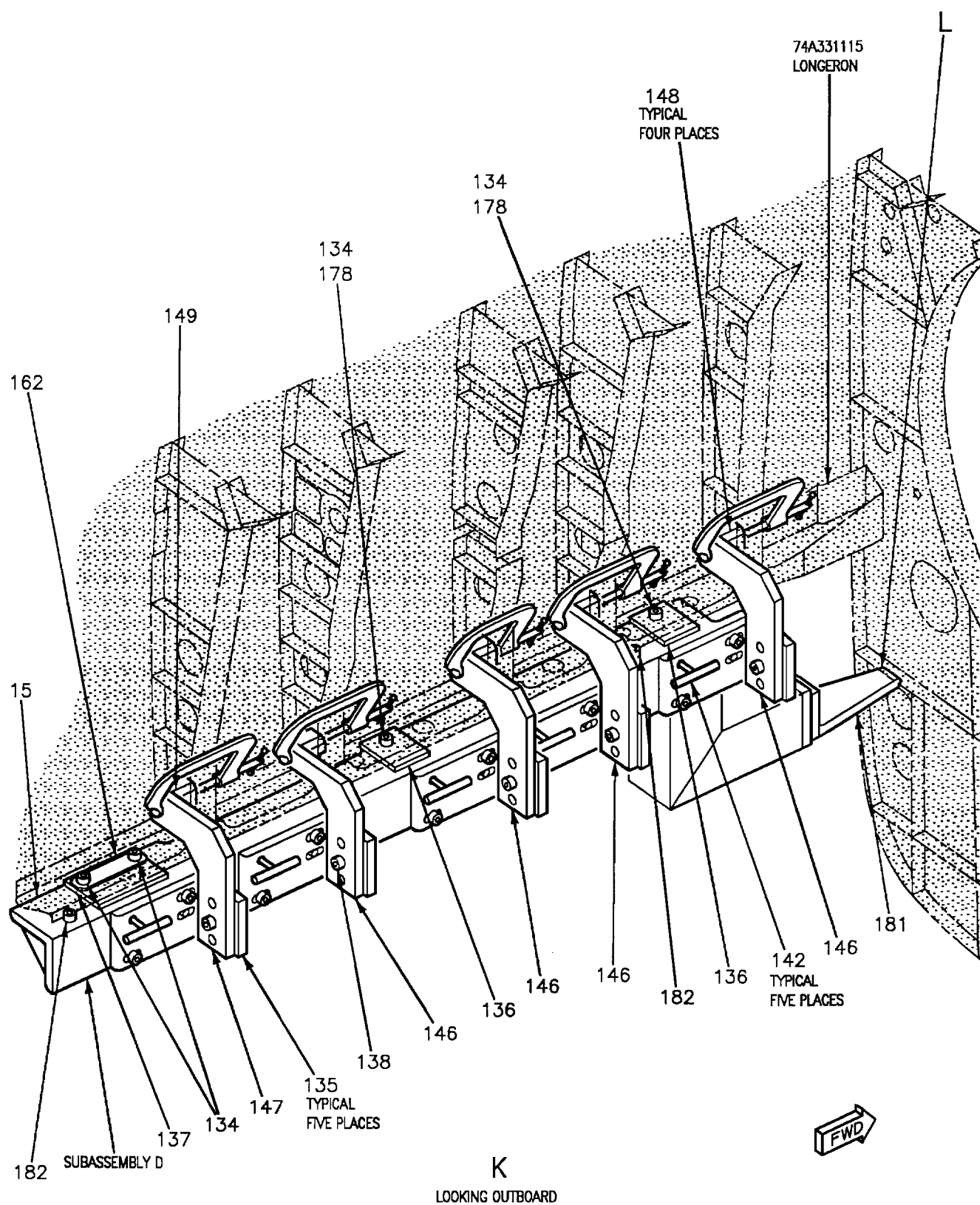


Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 6)

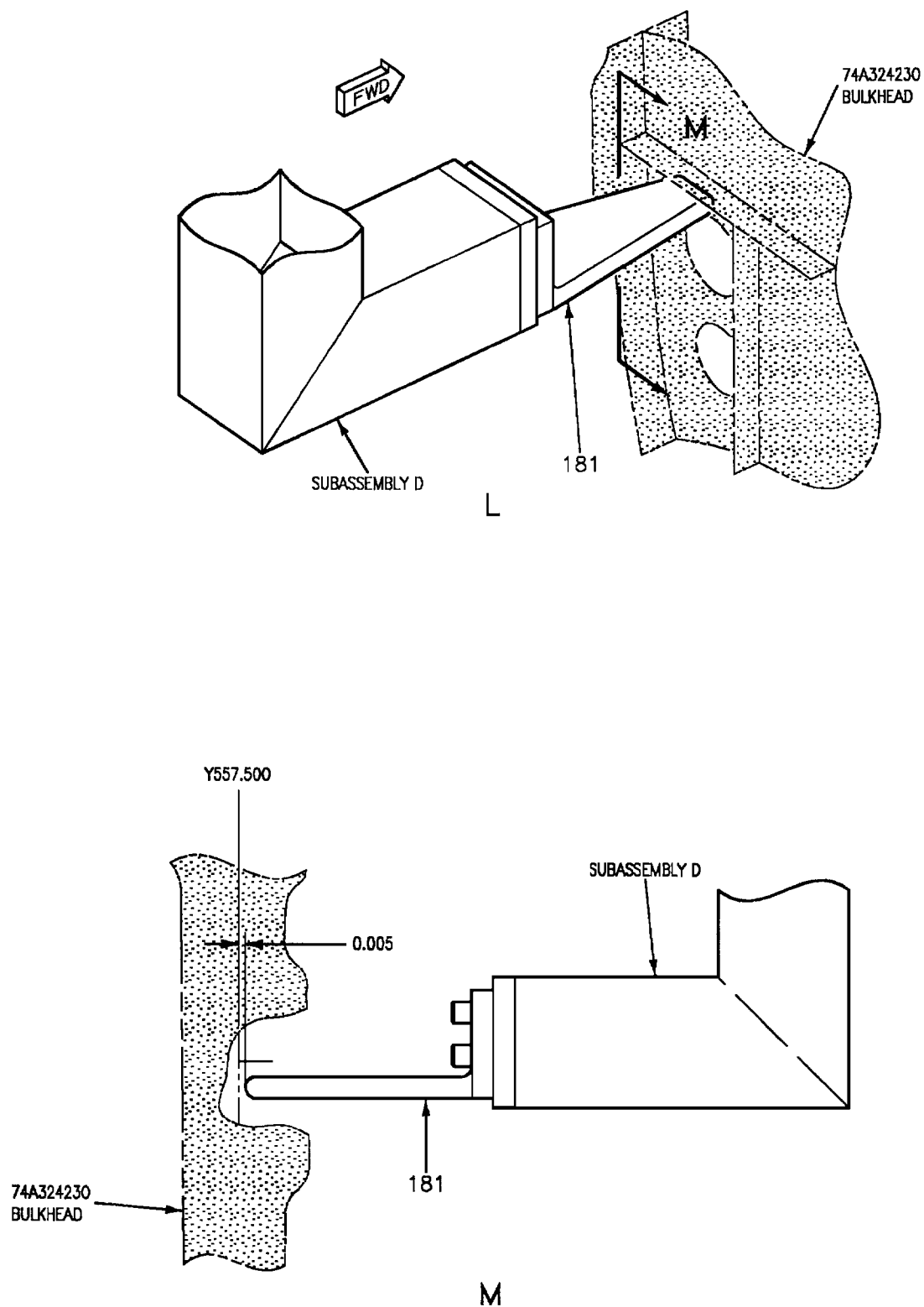


Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 7)

Detail No.	Name	Function
Subassembly A	Weld assembly	Basic subassembly to which other subassemblies and details are attached.
Subassembly B	Weld assembly	Locates subassembly A outboard side to 74A324102 bulkhead.
Subassembly C	Weld assembly	Locates subassembly A inboard side to 74A324102 bulkhead.
Subassembly D	Weld assembly	Basic lower subassembly to which details are attached.
Subassembly E	Weld assembly	Locates former at Y566.000.
Subassembly F	Weld assembly	Locates former at Y574.500.
Subassembly G	Weld assembly	Locates former at Y580.500.
Subassembly H	Weld assembly	Locates former at Y590.500.
Subassembly J	Weld assembly	Locates former at Y598.000.
15	Weld assembly	Used to support details 135.
16, 17, 18, 19, 20	Weld assembly	Positions subassembly A to stub frame.
106	Hoist ring	Used to attach hoisting cables to subassembly A.
108	Torque screw	Used to position subassembly B to aft surface of Y557.500 bulkhead.
109	Angle	Supports subassembly A at aft end.
110	Quick release pin	Secures subassembly A to 74A332162 support assembly.
111	Spherical bearing	Used with detail 110.
114	T-pin	Positions subassembly B to 74A324230 bulkhead.
115	T-pin	Positions subassembly C to 74A324230 bulkhead.
116	Dowel	Used to locate subassembly B to subassembly A.
118	Steel plate	Interconnects subassemblies B and C with subassembly A.
119	Socket head cap screw	Secures subassemblies B and C details 170, 171, 172, 173, and 174 to subassembly A.

Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 8)

Detail No.	Name	Function
120	Washer	Used with detail 119.
129	Hand knob	Used to adjust subassembly A up or down.
132	Pad	Resting point for subassembly A on bulkhead.
133	Threaded pin	Used to secure subassemblies E, F, G, H, and J to stub frames.
134	Socket head cap screw	Used to secure subassembly D to 74A331115 lower outboard longeron.
135	Angle	Supports details 146 and 147 to weld assembly 15.
136, 137	Teflon pad	Interfaces subassembly D with 74A331115 lower outboard longeron.
138	Socket head cap screw	Secures details 146 and 147 to detail 135.
141	Plate	Interfaces between subassemblies E, F, G, H, and J and subassembly A.
142	T-pin	Used to secure details 146 and 147 to subassembly D.
144	Toggle clamp	Used to secure details 170, 171, 172, 173, and 174 to upper stub frames.
146, 147	Plate	Used to position subassembly D to lower stub frames.
148, 149	Plate	Interfaces between details 146, 147, and lower stub frames.
152	Angle	Interfaces between subassemblies E, F, G, H, and J and subassembly A.
153	Socket head cap screw	Secures subassemblies E, F, G, H and J.
154	Shoulder screw	Secures subassemblies E, F, G, H, and J to subassembly A.
156	T-pin	Secures various assemblies to subassembly A.
157	Socket head cap screw	Secures detail 152 to detail 151, five places.
158	T-pin	Aligns detail 152 to detail 151.
162	Plate	Interfaces between subassembly D and 74A331115 longeron.
167	Bushing	Interfaces between subassembly J and 74A331321 former.

Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 9)

Detail No.	Name	Function
168	Spacer	Used to locate subassembly J to 74A331321 former on 161353 THRU 162477.
170, 171, 172, 173, 174	Angle	Positions subassembly A to stub frames.
175	Plate	Used with detail 174 on 161353 THRU 162477.
178	Washer	Used with detail 134 on detail 136.
181	Angle	Interfaces between subassembly D and 74A324230 bulkhead.
182	Shoulder screw	Used to index subassembly D to inboard flange of 74A331115 longeron.

Figure 1. Installation of RE174331000-1, -2 Alignment Device (Sheet 10)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

STRUCTURE REPAIR

AFT FUSELAGE LONGERONS AND STRINGERS

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Aft Fuselage Finish System and Markings	WP036 00
Engine Supports Finish System	WP0045 00
Power Plant and Related Systems	A1-F18AC-270-300
Failsafe Bolt Support (3MPS667 and 3MPS669 or 3MPT668 and 3MPT670) 161353 THRU 162477 Mount System	WP094 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Structure Repair, Typical Repairs	A1-F18AC-SRM-250
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
General Manual for Structural Repair	NAVAIR 01-1A-1
Passivation Treatments for Corrosion - Resisting Steel	QQ-P-35

Alphabetical Index

Subject	Page No.
Damage Evaluation	1
Negligible Damage	1
Repairable Damage	2
Repairs	2
Bearing Block 74A331176 and Shim Repair	2

Record of Applicable Technical Directives

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLECTIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However,

preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with figure and index numbers in the material index, figure 1.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

5. **REPAIRS.**

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00). Blend scratches, nicks, gouges or corrosion (A1-F18AC-SRM-250, WP038 00). If after blending, the damage limits of table 2 are exceeded, repair will require a depot engineering disposition. Refinish blended areas (A1-F18AC-SRM-500, WP036 00). Repair to 74A31176 bearing block and shim can be repaired per paragraph 7. All other repairs require a depot engineering disposition.

7. **BEARING BLOCK 74A331176 AND SHIM REPAIR.** See figure 3. Fabrication drilling and heat treatment of bearing block and shim is intermediate maintenance. Countersinking, counterboring, removal and replacement is organizational maintenance.

Support Equipment Required

None

Materials Required

NOTE

Alternate item specification or part numbers are listed in parentheses.

Nomenclature

**Specification
or Part Number**

Bearing Block (Fabricate)	Beryllium Copper Bar, Condition A (17-4 PH Cres Plate)
Cheesecloth	CCC-C-440, Type 1, Class 1
Collar (2)	SW1000-6M
Gloves, Cotton Work, Men's	MIL-G-3866, Type 1
Isopropyl Alcohol	TT-I-735, Grade 1
Pin (2)	HLT53YC-6-() HL13V-6-()
Shim (Fabricate)	302 Cres Laminate

a. Remove outboard failsafe bolt support (A1-F18AC-270-300, WP094 00).

b. Swing 74A501202 mount up as far as possible and secure in place.

c. Remove fasteners, bearing block, and shims as shown on sheet 1.

d. Inspect supporting structure for additional damage. If no damage is found, go to next step; if damage is found a depot engineering disposition is required.

e. Fabricate repair shim as shown.



Beryllium



14

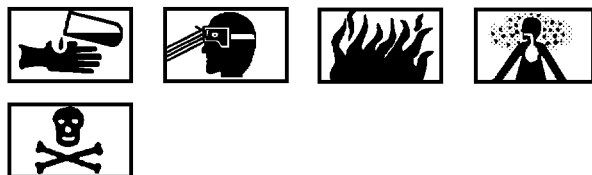
WARNING

Material used to fabricate bearing block contains beryllium. Particles can cause lung damage and allergic symptoms. Avoid skin contact, protect face and eyes, use respirator.

f. Fabricate repair bearing block as shown. Alternate material, 17-4PH cress plate, may be used.

g. Drill and countersink holes for HL13V-6() pins. HLT53YC-6() pins will require countersink and counterbore to prevent head of fastener from protruding above bearing block surface. See detail A.

h. Surface finish bearing block to 125 RHR or better.



Isopropyl Alcohol

1

NOTE

After cleaning of repair parts, use clean cotton gloves to handle parts.

i. Clean fabricated repair parts with clean cheesecloth dampened with isopropyl alcohol.

j. Wipe clean with clean dry cheesecloth.

k. Age treat at 600°F \pm 10°F for 3 hours. Heat treat alternate material block at 1015° to 1035°F for 4 hours. For heat treatment (NAVAIR 01-1A-1).

l. Cool to room temperature.

m. On alternate material only, passivate bearing block per federal specification QQ-P-35.

n. Enlarge holes in 74A331668 stringer to 0.1850 +0.0030 -0.0000 inch diameter.

o. Deburr enlarged holes.

p. Temporarily install and align shim and bearing block through predrilled holes as shown.

q. Release 74A501202 mount and lower into position.

r. Measure gap between 74A501202 mount and bearing block. Add or remove shims as required to a maximum gap of 0.003 inch. See detail A.

s. Install shim and bearing block with two HLT53YC-6() fasteners and two SW1000-6M collars. Fastener length determined on installation.

NOTE

Face of bearing block shall be left unpainted.

t. Refinish repaired area (A1-F18A-SRM-500, WP045 00).

u. Install outboard failsafe support (A1-F18AC-270-300, WP094 00).

Table 1. Negligible Damage Limits

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Stringer Zone B2	0.080	0.008	0.0006	100%		10%
Fig 1 (2)	Longeron Zone A3	0.070	0.002	0.002	100%		10%
	Zone A3	0.090	0.002	0.002	100%		10%
	Zone A3	0.100	0.002	0.002	100%		10%
	Zone A3	0.130	0.002	0.002	100%		10%
Fig 1 (3)	Stringer Zone A2	0.063	0.002	0.002	100%		10%
Fig 1 (4)	Stringer Zone A2	0.090	0.002	0.002	100%		10%

Table 1. Negligible Damage Limits (Continued)


































Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (5)	Longeron Zone A3	0.070	0.002	0.002	100%	0.035	
	Zone A3	0.100	0.002	0.002	100%		10%
Fig 1 (6)	Stringer Zone A2	0.090	0.002	0.002	100%		10%
Fig 1 (7)	Longeron Zone B3	0.080	0.0006	0.0006	100%		
	Zone B3	0.100	0.0006	0.0006	100%		
	Zone B3	0.110	0.0006	0.0006	100%		10%
	Zone B3	0.120	0.0006	0.0006	100%		5%
	Zone B3	0.130	0.0006	0.0006	100%		10%
	Zone B3	0.140	0.0006	0.0006	100%		10%
	Zone B3	0.150	0.0006	0.0006	100%		10%
	Zone B3	0.180	0.0006	0.0006	100%		10%
Fig 1 (8)	Fitting Zone B3		0.004	0.0006	100%		5%
Fig 1 (9)	Fitting Zone B3		0.004	0.0006	100%		5%
Fig 1 (10)	Cap Zone B3	0.071	0.0006	0.0006	100%		10%
Fig 1 (11)	Longeron Zone A3	0.080	0.002	0.002	100%		5%
	Zone A3	0.090	0.002	0.002	100%		5%
	Zone A3	0.120	0.002	0.002	100%		10%
	Zone A3	0.150	0.002	0.002	100%		10%
	Zone A3	0.155	0.002	0.002	100%		10%
	Zone A3	0.160	0.002	0.002	100%		10%
	Zone A3	0.180	0.002	0.002	100%		10%
	Zone A3	0.220	0.002	0.002	100%		10%
Fig 1 (12)	Support Zone A3	0.090	0.002	0.002	100%		10%
Fig 1 (13)	Longeron Zone B3	0.090	0.0006	0.0006	100%		10%
	Zone B3	0.110	0.0006	0.0006	100%		10%
Fig 1 (14)	Longeron Zone B3	0.080	0.0006	0.0006	100%		5%
	Zone B3	0.100	0.0006	0.0006	100%		5%
	Zone B3	0.110	0.0006	0.0006	100%		5%
	Zone B3	0.130	0.0006	0.0006	100%		5%

Table 1. Negligible Damage Limits (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (15)	Splice Zone B3	0.080	0.0006	0.0006	100%		5%
	Zone B3	0.100	0.0006	0.0006	100%		5%
	Zone B3	0.125	0.0006	0.0006	100%		5%
Fig 1 (16)	Longeron Zone A3	0.080	0.002	0.002	100%		10%
Fig 1 (17)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (18)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (19)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
	Zone A1	0.094	0.002	0.002	100%		10%
Fig 1 (20)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (21)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (22)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
	Zone A1	0.065	0.002	0.002	100%		10%
Fig 1 (23)	Cap Zone A1	0.071	0.002	0.002	100%		5%
Fig 1 (24)	Longeron Zone A1	0.080	0.002	0.002	100%		10%
Fig 1 (25)	Cap Zone A1	0.071	0.002	0.002	100%		10%
Fig 1 (26)	Plate Zone B2	0.100	0.010	0.0006	100%		5%
Fig 1 (28)	Stringer Zone B1	0.090	0.014	0.0006	100%		10%
	Zone B1	0.100	0.015	0.0006	100%	0.025	
	Zone B1	0.130	0.020	0.0006	100%		10%
	Zone B1	0.250	0.038	0.0006	100%		
	Zone B1		0.014	0.0006	100%		10%
	Zone B1		0.014	0.0006	100%		10%

Table 1. Negligible Damage Limits (Continued)


















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (29)	Stringer Zone A2	0.070	0.002	0.002	100%	0.035	10%
	Zone A2	0.090	0.002	0.002	100%		10%
	Zone A2	0.200	0.002	0.002	100%		10%
	Zone A2	0.250	0.002	0.002	100%		10%
Fig 1 (30)	Stringer Zone A2	0.070	0.002	0.002	100%	0.035	10%
	Zone A2	0.090	0.002	0.002	100%		10%
	Zone A2	0.200	0.002	0.002	100%		10%
	Zone A2	0.250	0.002	0.002	100%		10%
Fig 1 (33)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (34)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (35)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (36)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (37)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (38)	Stringer Zone A1	0.094	0.002	0.002	100%		10%
Fig 1 (39)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (40)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (41)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (42)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
Fig 1 (43)	Stringer Zone A1	0.090	0.002	0.002	100%		10%

Table 1. Negligible Damage Limits (Continued)






Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (44)	Stringer Zone A1	0.090	0.002	0.002	100%		10%
NOTES  None allowed.  Thickness tapers from 0.140 to 0.080 inch.  Thickness tapers from 0.200 to 0.090 inch.  Thickness tapers from 0.350 to 0.090 inch.							

Table 2. Repairable Damage Limits After Blending


Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (1)	Stringer Zone B2	0.080	0.018	0.016	0.016	20%	0.016	20%
Fig 1 (2)	Longeron Zone A3	0.070	0.047	0.014	0.014	20%	0.014	20%
	Zone A3	0.090	0.047	0.018	0.018	20%	0.018	20%
	Zone A3	0.100	0.047	0.020	0.020	5%	0.020	5%
	Zone A3	0.130	0.047	0.026	0.026	20%	0.026	20%
Fig 1 (3)	Stringer Zone A2	0.063	0.056	0.012	0.012	5%	0.012	5%
Fig 1 (4)	Stringer Zone A2	0.090	0.057	0.018	0.018	30%	0.018	30%
Fig 1 (5)	Longeron Zone A3	0.070	0.052	0.014	0.014	5%	0.014	5%
	Zone A3	0.100	0.056	0.020	0.020	5%	0.020	5%
Fig 1 (6)	Stringer Zone A2	0.090	0.057	0.018	0.018	30%	0.018	30%
Fig 1 (7)	Longeron Zone B3	0.080	0.018	0.016	0.016	20%	0.016	20%
	Zone B3	0.100	0.150	0.020	0.020	20%	0.020	20%
	Zone B3	0.110	0.106	0.022	0.022	20%	0.022	20%
	Zone B3	0.120	0.194	0.024	0.024	5%	0.024	5%
	Zone B3	0.130	0.075	0.026	0.026	20%	0.026	20%
	Zone B3	0.140	0.147	0.028	0.028	5%	0.028	5%
	Zone B3	0.150	0.150	0.030	0.030	20%	0.030	20%
	Zone B3	0.180	0.109	0.036	0.036	10%	0.036	10%
Fig 1 (8)	Fitting Zone B3		0.0006	0.016	0.016	20%	0.016	20%

Table 2. Repairable Damage Limits After Blending (Continued)




Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (9)	Fitting Zone B3		0.0006	0.016	0.016	20%	0.016	20%
Fig 1 (10)	Cap Zone B3	0.071	0.0006	0.014	0.014	20%	0.014	20%
Fig 1 (11)	Longeron Zone A3	0.080	0.056	0.016	0.016	20%	0.016	20%
	Zone A3	0.090	0.075	0.018	0.018	20%	0.018	20%
	Zone A3	0.120	0.056	0.024	0.024	20%	0.024	20%
	Zone A3	0.150	0.047	0.030	0.030	20%	0.030	20%
	Zone A3	0.155	0.057	0.031	0.031	20%	0.031	20%
	Zone A3	0.160	0.070	0.032	0.032	20%	0.032	20%
	Zone A3	0.180	0.070	0.036	0.036	20%	0.036	20%
	Zone A3	0.220	0.032	0.044	0.044	30%	0.044	30%
Fig 1 (12)	Support Zone A3	0.090	0.056	0.018	0.018	10%	0.018	10%
Fig 1 (13)	Longeron Zone B3	0.090	0.0006	0.018	0.018	20%	0.018	20%
	Zone B3	0.110	0.0006	0.022	0.022	20%	0.022	20%
Fig 1 (14)	Longeron Zone B3	0.080	0.0006	0.016	0.016	20%	0.016	20%
	Zone B3	0.100	0.0006	0.020	0.020	20%	0.020	20%
	Zone B3	0.110	0.0006	0.022	0.022	20%	0.022	20%
	Zone B3	0.130	0.0006	0.026	0.026	20%	0.026	20%
Fig 1 (15)	Splice ZoneB3	0.080	0.0006	0.016	0.016	20%	0.016	20%
	ZoneB3	0.100	0.0006	0.020	0.020	20%	0.020	20%
	Zone B3	0.125	0.0006	0.025	0.025	20%	0.025	20%
Fig 1 (16)	Longeron Zone A3	0.080	0.468	0.016	0.016	20%	0.016	20%
Fig 1 (17)	Stringer Zone A1	0.090	0.056	0.018	0.018	10%	0.018	10%
Fig 1 (18)	Stringer Zone A1	0.090	0.047	0.018	0.018	20%	0.018	20%
Fig 1 (19)	Stringer ZoneA1	0.090	0.056	0.018	0.018	20%	0.018	10%
	Zone A1	0.094	0.047	0.018	0.018	20%	0.018	20%
Fig 1 (20)	Stringer Zone A1	0.090	0.056	0.018	0.018	10%	0.018	10%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (21)	Stringer Zone A1	0.090	0.056	0.018	0.18	10%	0.018	10%
Fig 1 (22)	Stringer ZoneA1 Zone A1	0.065 0.090	0.047 0.056	0.013 0.018	0.013 0.018	20% 10%	0.013 0.018	20% 10%
Fig 1 (23)	Cap Zone A1	0.071	0.047	0.014	0.014	20%	0.014	20%
Fig 1 (24)	Longeron Zone A1	0.080	0.056	0.016	0.016	20%	0.016	20%
Fig 1 (25)	Cap Zone A1	0.071	0.047	0.014	0.014	10%	0.014	10%
Fig 1 (26)	Plate Zone B2	0.100	0.031	0.020	0.020	10%	0.020	10%
Fig 1 (28)	Stringer ZoneB1 ZoneB1 ZoneB1 ZoneB1 ZoneB1 Zone B1	0.090 0.100 0.130 0.250  	0.0006 0.092 0.032 0.077 0.032 0.032	0.018 0.020 0.026 0.050 0.018 0.018	0.018 0.020 0.026 0.050 0.018 0.018	20% 20% 20% 20% 20% 20%	0.018 0.020 0.026 0.050 0.018 0.018	20% 20% 20% 20% 20% 20%
Fig 1 (29)	Stringer ZoneA2 ZoneA2 ZoneA2 Zone A2	0.070 0.090 0.200 0.250	0.048 0.048 0.048 0.048	0.014 0.018 0.040 0.050	0.014 0.018 0.040 0.050	20% 20% 20% 20%	0.014 0.018 0.040 0.050	20% 20% 20% 20%
Fig 1 (30)	Stringer ZoneA2 ZoneA2 ZoneA2 Zone A2	0.070 0.090 0.200 0.250	0.048 0.048 0.048 0.048	0.014 0.018 0.040 0.050	0.014 0.018 0.040 0.050	20% 20% 20% 20%	0.014 0.018 0.040 0.050	20% 20% 20% 20%
Fig 1 (33)	Stringer Zone A1	0.090	0.047	0.018	0.018	20%	0.018	20%
Fig 1 (34)	Stringer Zone A1	0.090	0.047	0.018	0.018	20%	0.018	20%
Fig 1 (35)	Stringer Zone A1	0.090	0.047	0.018	0.018	20%	0.018	20%
Fig 1 (36)	Stringer Zone A1	0.090	0.047	0.018	0.018	20%	0.018	20%

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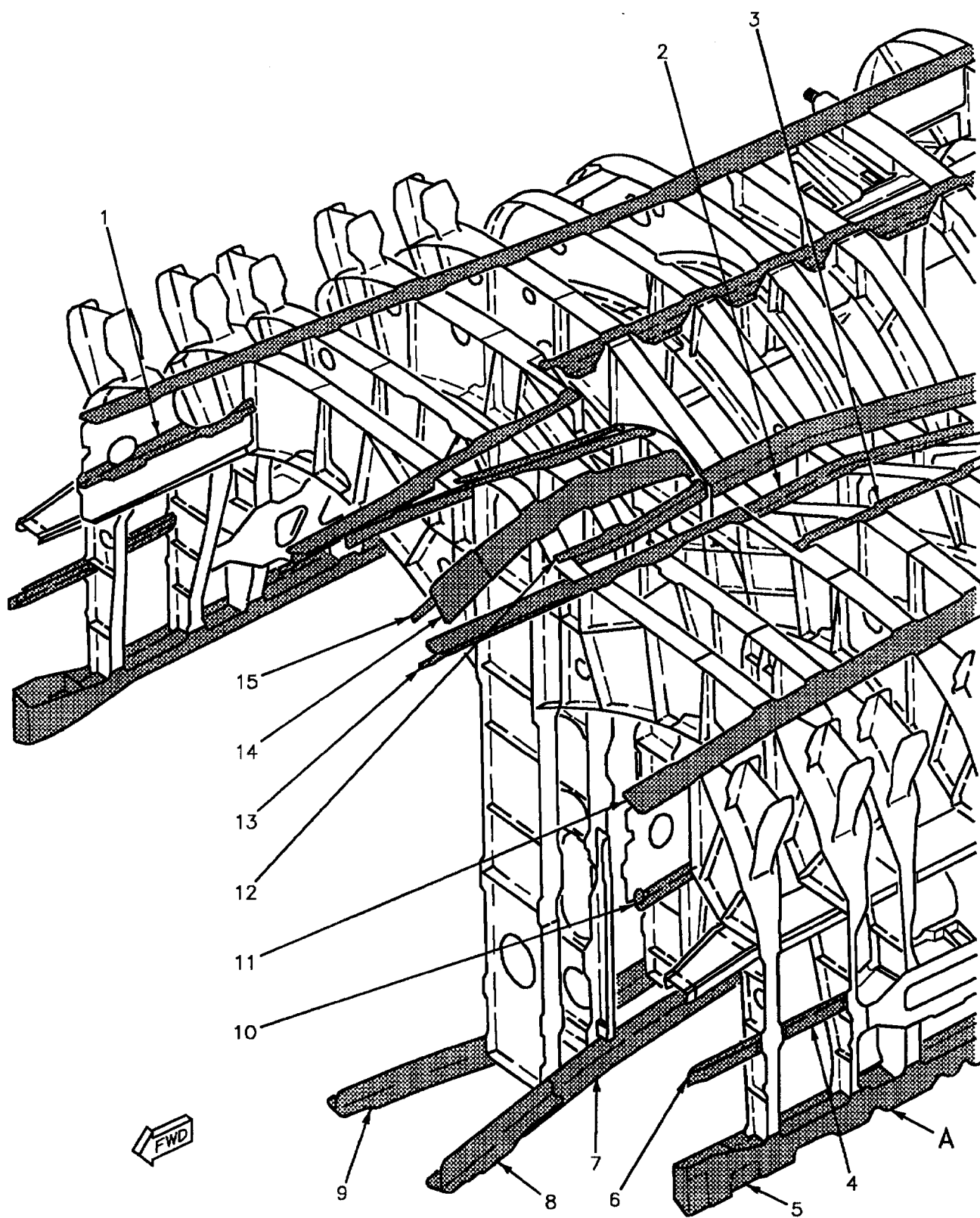


Figure 1. Material Index (Sheet 1)

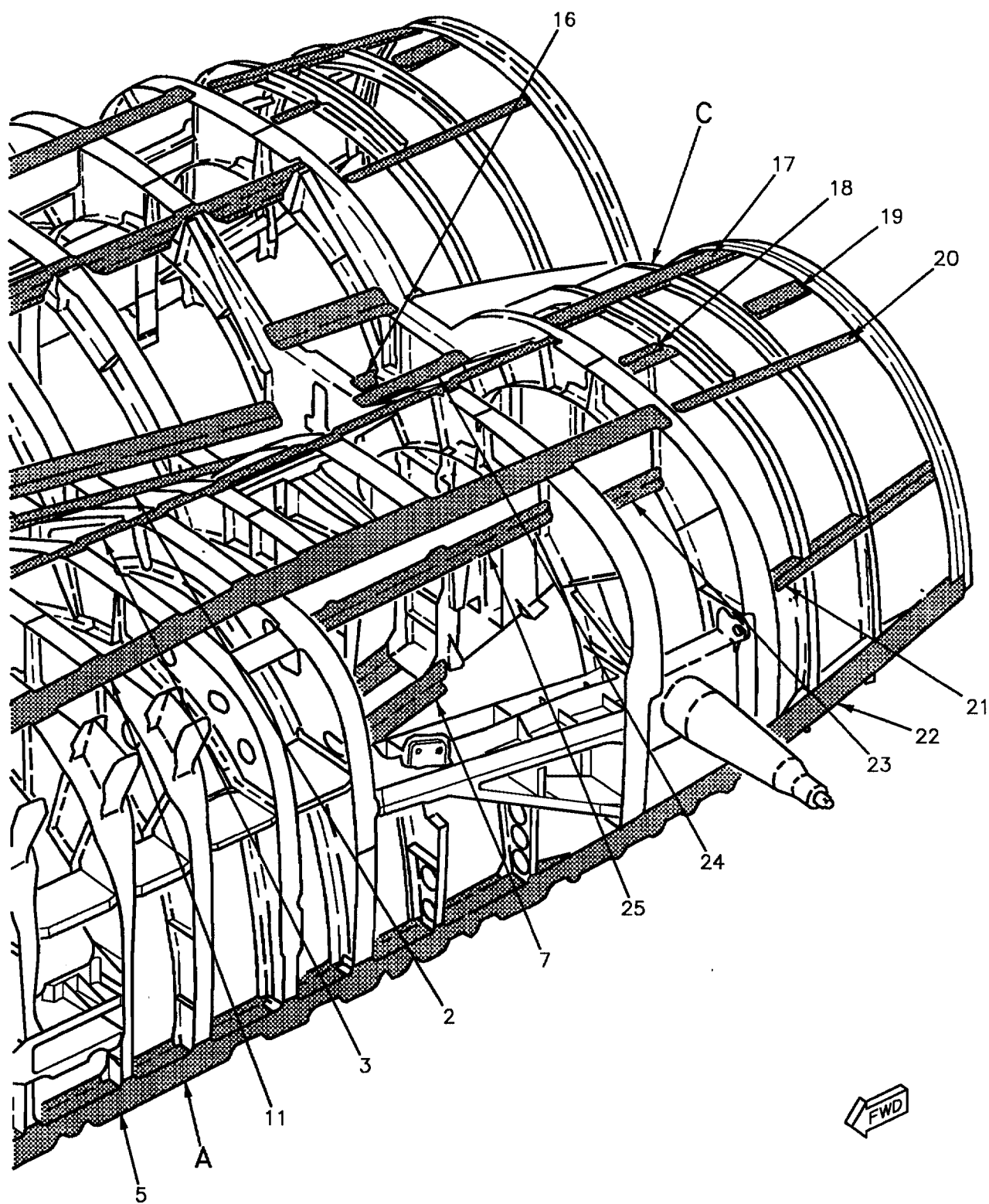
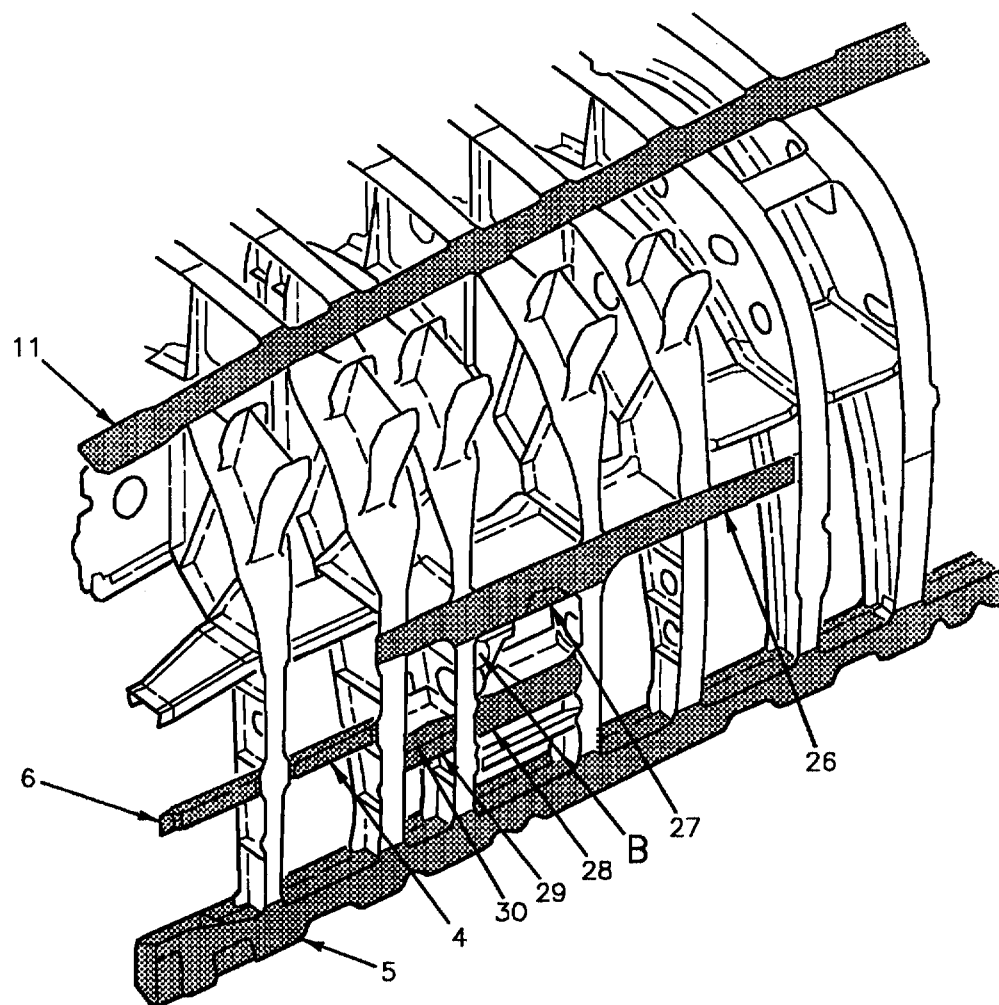
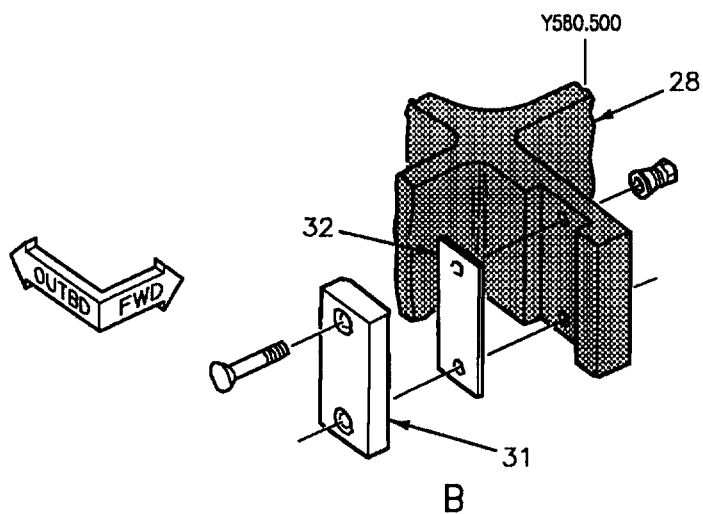


Figure 1. Material Index (Sheet 2)



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A



B

Figure 1. Material Index (Sheet 3)

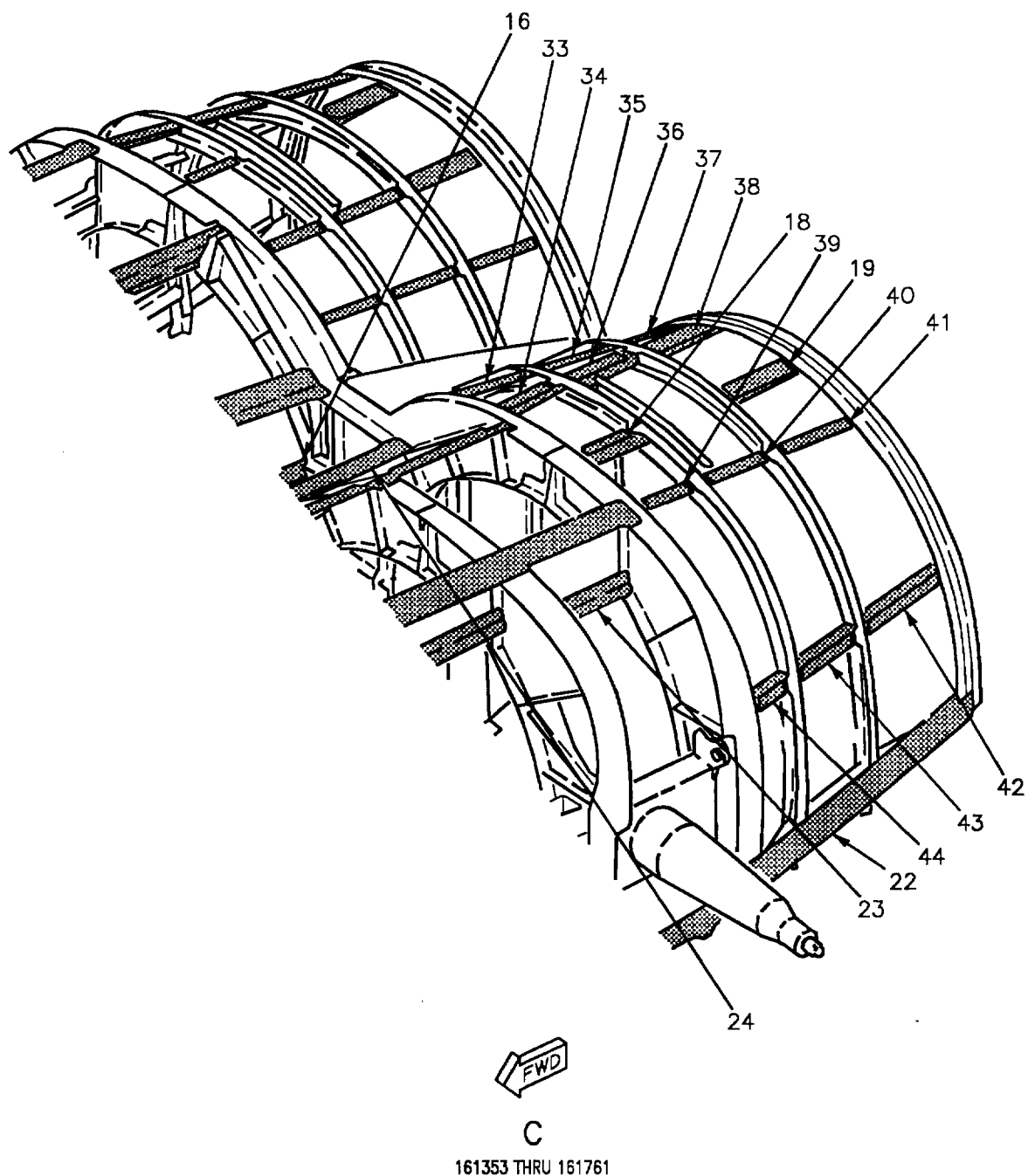


Figure 1. Material Index (Sheet 4)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Stringer 74A331112-2001, -2002	1MA160D06-10334 Extr	7075-T76511 Al Aly
2 L R L R	 	Longeron 74A332510-2001 74A332510-2002 74A332510-2003 74A332510-2004 74A332510-2005, -2006	1MT10051A01 Extr	6Al-4V Ti Anl
3	 	Stringer 74A332125-2003, -2004 74A332125-2005, -2006	0.063 Sheet	7075-T62 Alclad
4	 	Stringer 74A331118-2003 74A331118-2005	0.090 Sheet	7075-T76 Alclad
5	 	Longeron 74A331115-2007, -2008 74A331115-9001, -9002 74A331115-9003, -9004 74A331115-2013, -2014 74A331115-2017, -2018 74A331115-2019, -2020	Stepped Extrusion	7149-T73 Al Aly
6		Stringer 74A331118-2001	0.090 Sheet	7075-T76 Alclad
7	 	Longeron 74A332511-9001, -9002 74A332511-2003, -2004 74A332511-9003, -9004 74A332511-2003, -2004	1MT10053A01 Extr	6Al-4V Ti Anl
8		Fitting 74A332560-2001, -2002	1MT300A01-10012 Extr	6Al-4V Ti Anl
9		Fitting 74A332561-2001, -2002	1MT300A01-10012 Extr	6Al-4V Ti Anl
10	 	Cap 74A331113-2011, -2012 74A331113-2017, -2018 74A331113-2021, -2022	0.071 Sheet	7075-T62 Al Aly
11	 	Longeron 74A331110-2005, -2006 74A331110-2001, -2002	1MA10326J01 Extr	7149-T73 Al Aly
12		Support 74A332131-2001, -2002	1MA100D01-10334 Extr	7075-T76 Al Aly

Figure 1. Material Index (Sheet 5)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
13	<div>25</div> <div>26</div> <div>27</div>	Longerons 74A332132-2003, -2004 74A332132-2005, -2006 74A332132-2007, -2008	1MA160D01-10442 Extr 1MA160D01-10531 Extr	7075-T76 Al Aly 7075-T76 Al Aly
14	<div>20</div> <div>21</div> <div>29</div> <div>34</div> <div>35</div>	Longerons 74A332121-2009, -2010 74A332121-2013, -2014 74A332121-9005, -9006 74A332121-2021, -2022 74A332121-2017, -2022	Forging	7149-T73 Al Aly
15	<div>19</div> <div>22</div>	Splice 74A332109-2001 74A332109-2005	<div>3</div> Sheet	7075-T76 Al Aly
16		Longerons 74A332507-2004, -2003	1MT300A01-10014 Extr	6Al-4V Ti Anl
17	<div>8</div>	Stringer 74A333155-2029, -2030	1MA100D01-10038 Extr	7075-T76 Al Aly
18	<div>9</div> <div>8</div>	Stringer 74A333155-2005, -2006 74A333155-2031, -2032	0.090 Sheet 1MA100D01-10024 Extr	2024-T72 Al Aly 7075-T76 Al Aly
19	<div>9</div> <div>8</div>	Stringer 74A333155-2027, -2028 74A333155-2033, -2034	1MA160B01-10059 Extr 1MA100D01-10024 Extr	2024-T62 Al Aly 7075-T76 Al Aly
20	<div>8</div>	Stringer 74A333155-2035, -2036	1MA100D01-10026 Extr	7075-T76 Al Aly
21	<div>8</div>	Stringer 74A333155-2037, -2038	1MA100D01-10044 Ext	7075-T76 Al Aly
22	<div>9</div> <div>8</div>	Stringer 74A333150-2003, -2004 74A333150-2005, -2006	1MA10374B01 Extr 1MA10534D01 Extr	2024-T62 Al Aly 7075-T76 Al Aly
23	<div>9</div> <div>8</div>	Cap 74A331111-2003, -2004 74A331111-2007, -2008	0.071 Sheet	6Al-4V Ti Anl
24		Longerons 74A332505-2001, -2002	1MA10366D06 Extr	7075-T76511 Al Aly
25		Cap 74A331111-2001, -2002	0.071 Sheet	6Al-4V Ti Anl
26	<div>19</div>	Plate 74A331177-2001, -2002	0.100 Sheet	7075-T76 Alclad

Figure 1. Material Index (Sheet 6)

















Idx No.	Eft	Nomenclature and Part No.	Description	Material
27		Support, Trunnion 74A331170-2003, -2004 74A331170-2009, -2010	Die Forging	7049-T73 Al Aly
28		Stringer 74A331668-2003, -2004 74A331668-2001, -2002	Machined Bar Machined Plate	7075-T73511 Al Aly 7075-T7351 Al Aly
29		Stringer 74A331668-2005, -2006	Machined Bar	7075-T73511 Al Aly
30		Stringer 74A331668-2007, -2008	Machined Bar	7075-T 73511 Al Aly
31		Bearing Block 74A331176-2003 74A331176-2005	0.250 Bar	CA172 Be Cu
32		Shim Laminate 74A330710-2091 74A330710-2089	0.126 Laminate	5052 Al Aly
33		Stringer 74A333155-2001, -2002	0.090 Sheet	2024-T72 Al Aly
34		Stringer 74A333155-2003, -2004	0.090 Sheet	2024-T72 Al Aly
35		Stringer 74A333155-2011, -2012	0.090 Sheet	2024-T72 Al Aly
36		Stringer 74A333155-2013, -2014	0.090 Sheet	2024-T72 Al Aly
37		Stringer 74A333155-2019, -2020	0.090 Sheet	2024-T72 Al Aly
38		Stringer 74A333155-2007, 2008	1MA160B01-10059 Extr	2024-T62 Al Aly
39		Stringer 74A333155-2007, -2008	0.090 Sheet	2024-T72 Al Aly
40		Stringer 74A333155-2015, -2016	0.090 Sheet	2024-T72 Al Aly
41		Stringer 74A333155-2021, -2022	0.090 Sheet	2024-T72 Al Aly
42		Stringer 74A333155-2023, -2024	0.090 Sheet	2024-T72 Al Aly

Figure 1. Material Index (Sheet 7)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
43	9	Stringer 74A333155-2017, -2018	0.090 Sheet	2024-T72 Al Aly
44	9	Stringer 74A333155-2009, -2010	0.090 Sheet	2024-T72 Al Aly

LEGEND

- 1 161353 THRU 161361 BEFORE F/A-18 AFB 138.
- 2 161362 THRU 162477 BEFORE F/A-18 AFB 138.
- 3 0.125 stock size machined to 0.100 and 0.080.
- 4 161353 THRU 161705, 161707.
- 5 161706, 161708 THRU 162907.
- 6 161353 THRU 161717.
- 7 161718 THRU 161761.
- 8 161924 AND UP.
- 9 161353 THRU 161761.
- 10 161353 THRU 161939.
- 11 161940 THRU 162477.
- 12 161353 THRU 161944.
- 13 161945 THRU 162477.
- 14 161924 THRU 161963.
- 15 161964 THRU 161978.
- 16 161979 THRU 162477.
- 17 161353 THRU 161966.
- 18 161967 THRU 162909.
- 19 161353 THRU 162477.
- 20 161353 THRU 161968.
- 21 161969 THRU 162845.
- 22 162826 AND UP.
- 23 161353 THRU 162837.
- 24 162838 AND UP.
- 25 161353 THRU 162456.
- 26 162457 THRU 162828.
- 27 162829 AND UP.
- 28 163092 AND UP.
- 29 162846 THRU 162909.
- 30 161363 THRU 162477.
- 31 162908 THRU 163154.
- 32 161353 THRU 161362.
- 33 163155 AND UP.
- 34 163092 THRU 163174.
- 35 163175 AND UP.

Figure 1. Material Index (Sheet 8)

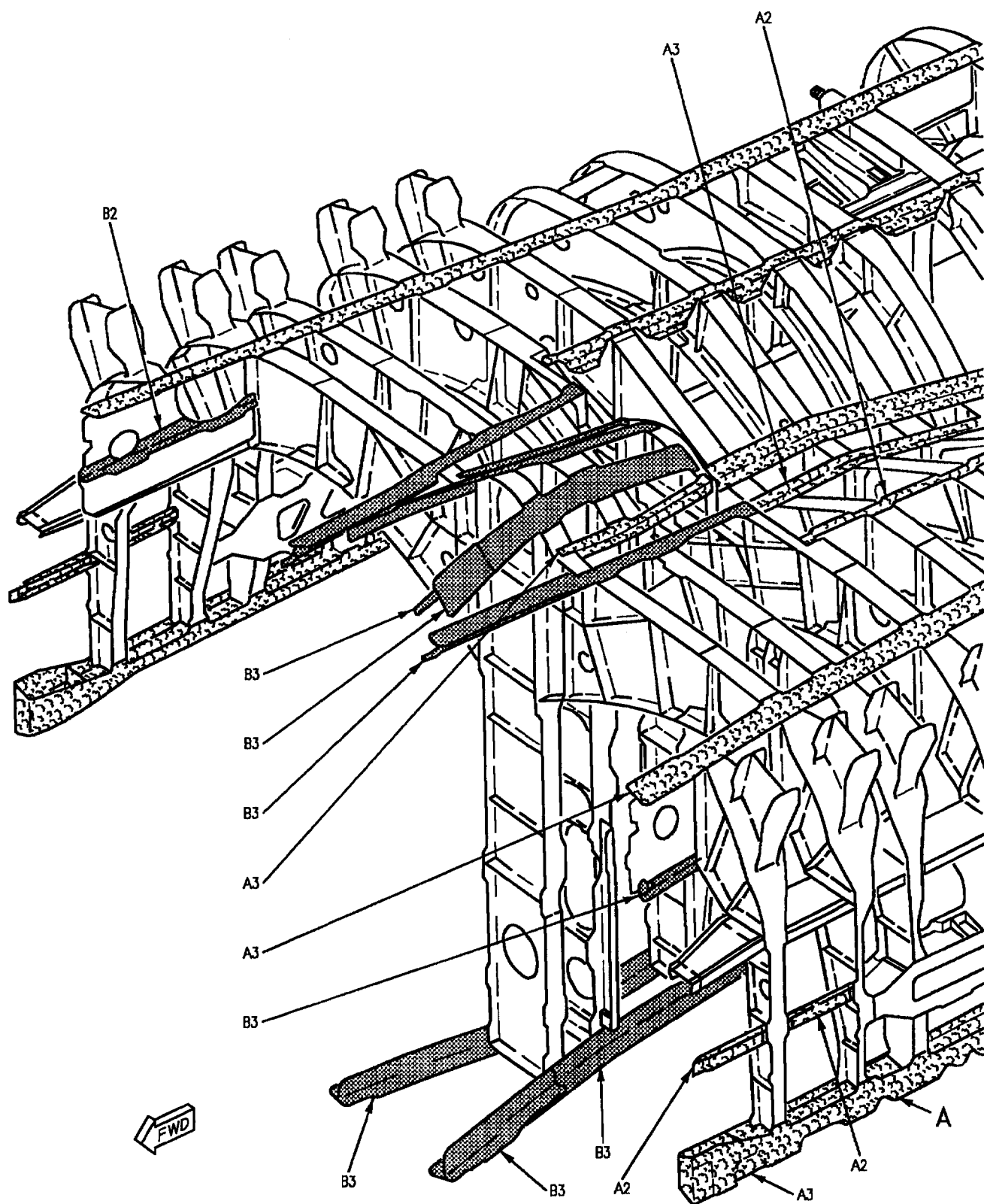


Figure 2. Repair Zones (Sheet 1)

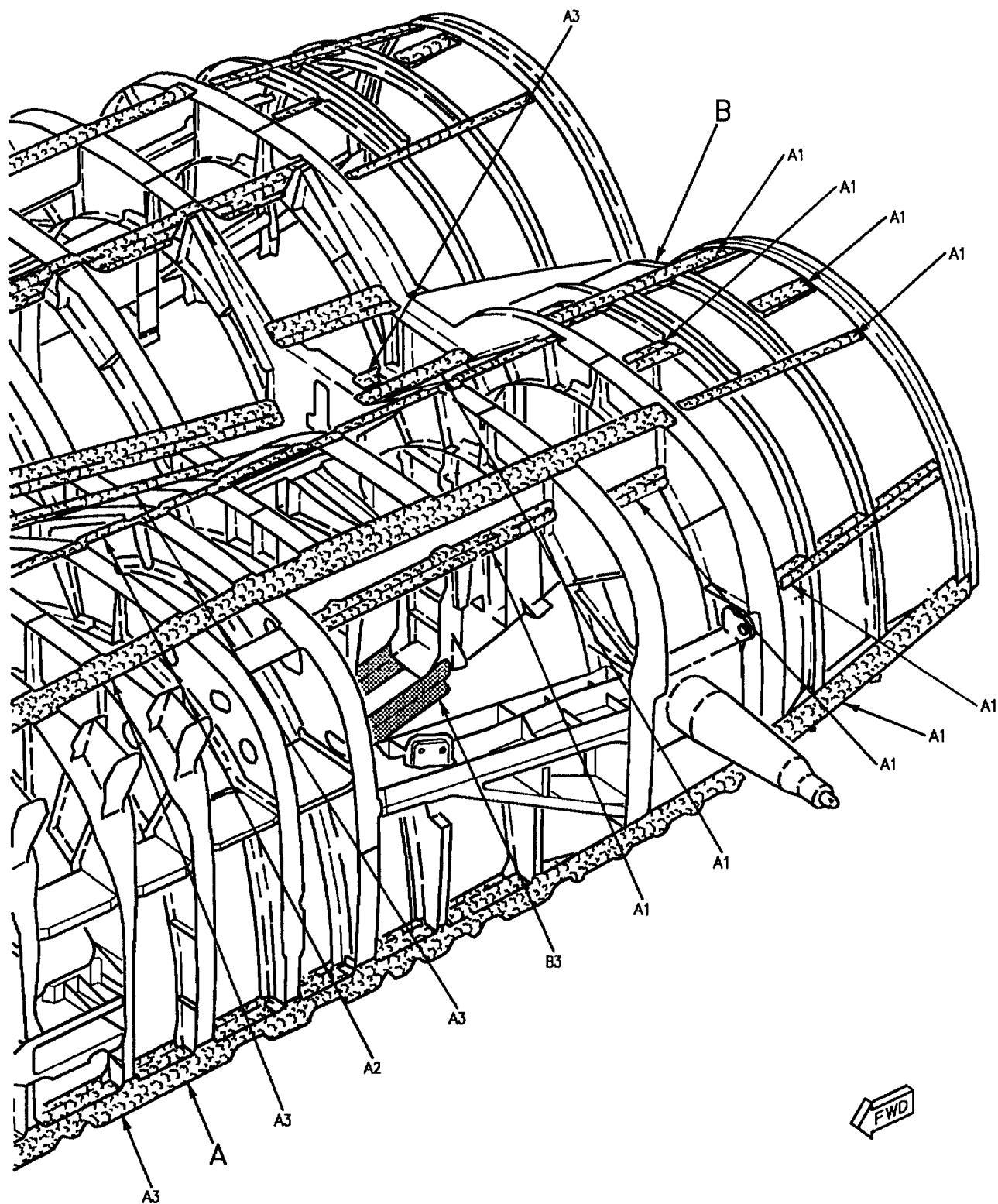
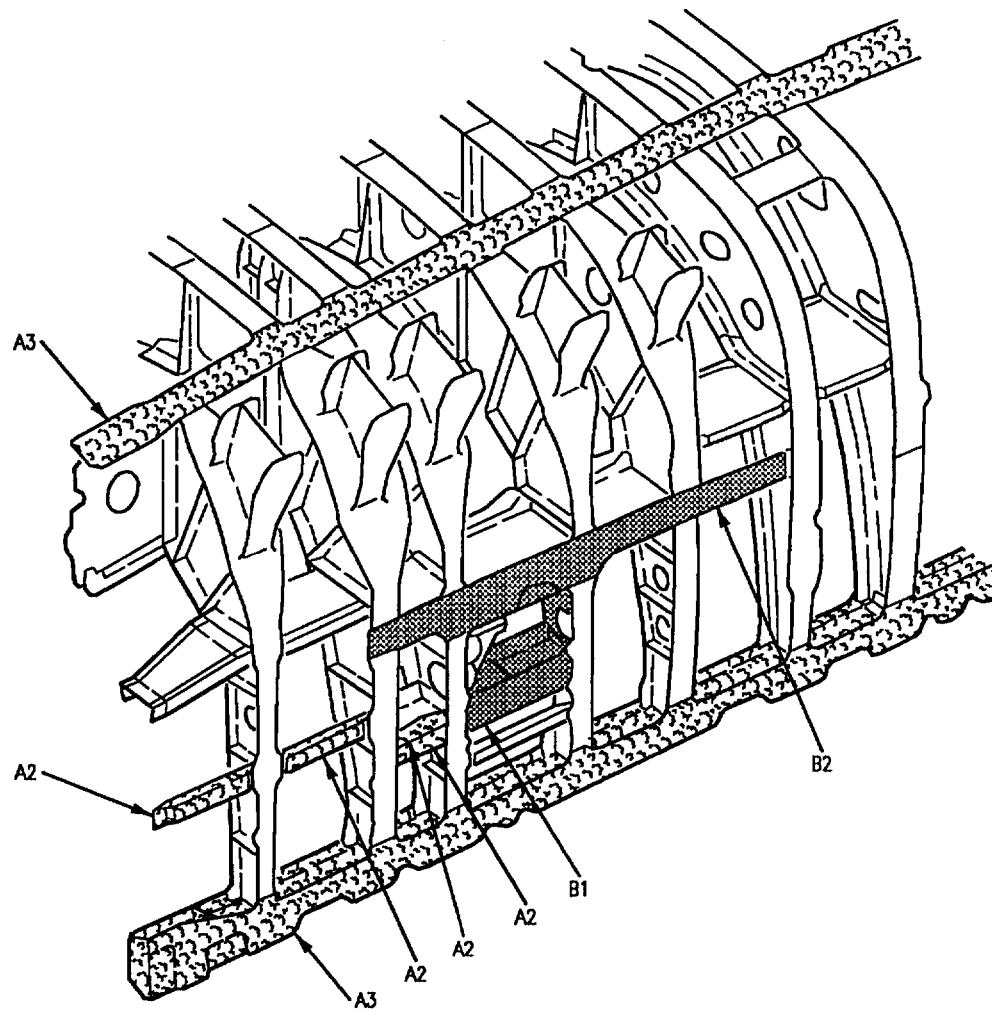


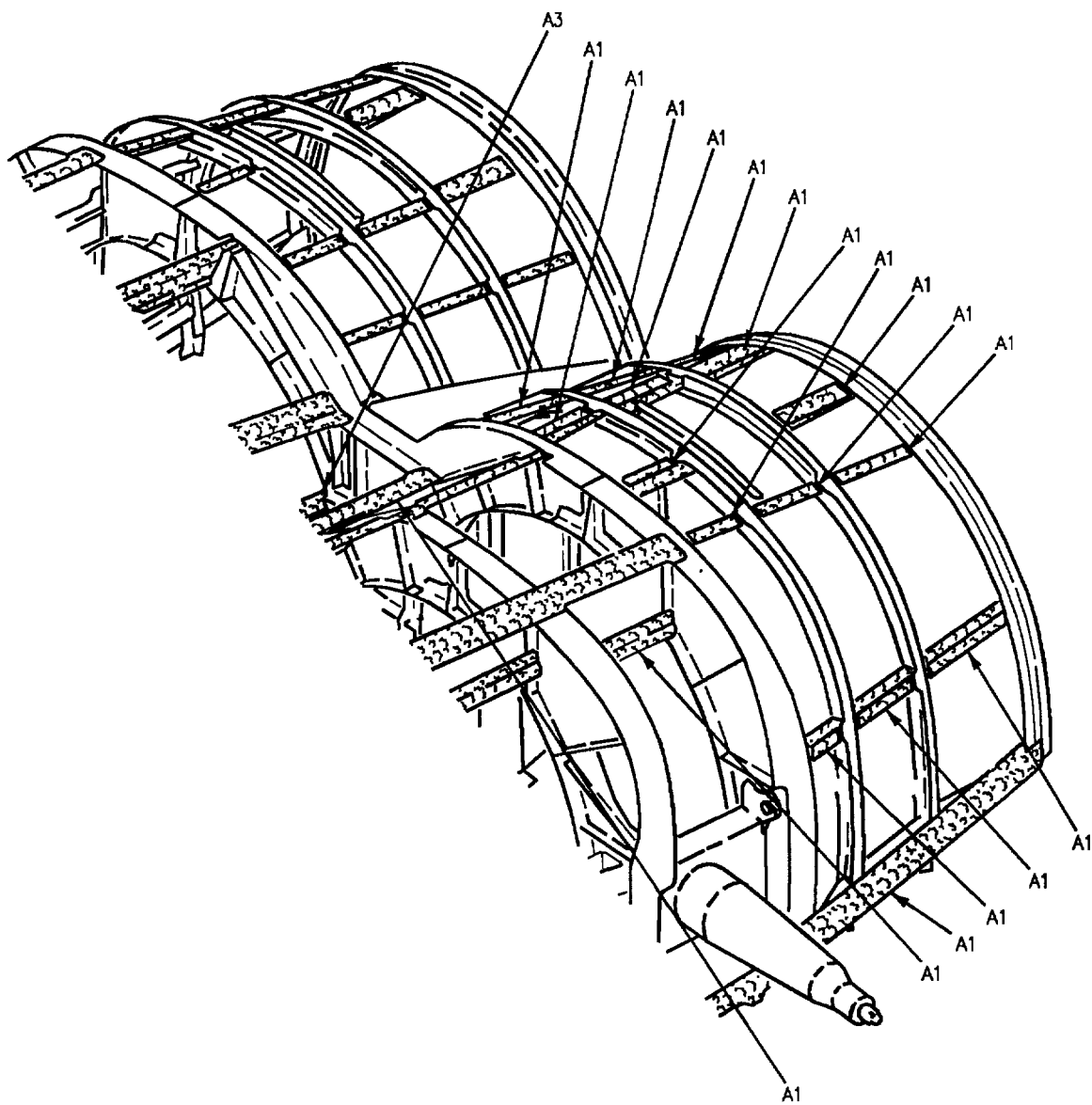
Figure 2. Repair Zones (Sheet 2)



161353 THRU 162477

A

Figure 2. Repair Zones (Sheet 3)



B

161353 THRU 161761

Figure 2. Repair Zones (Sheet 4)

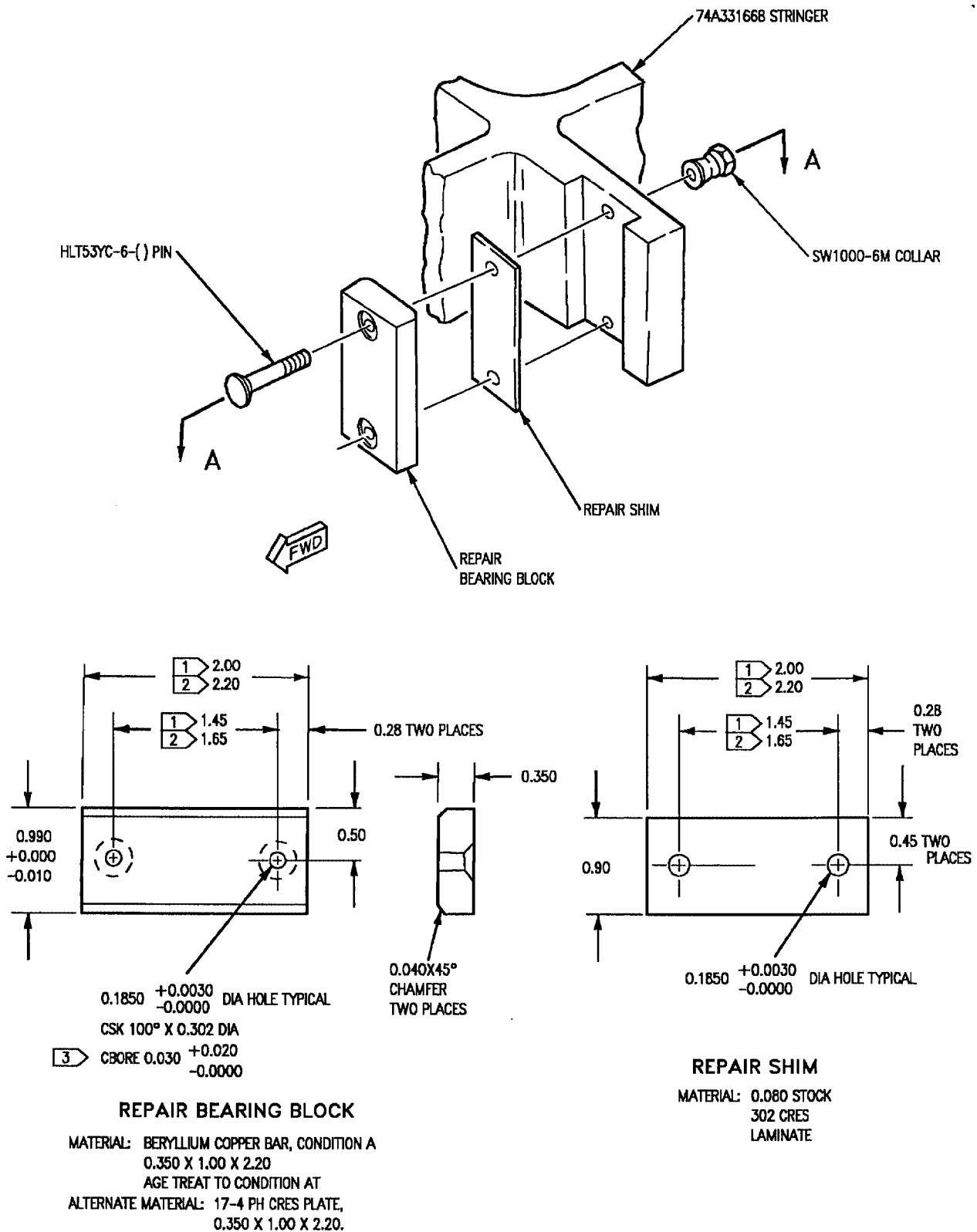
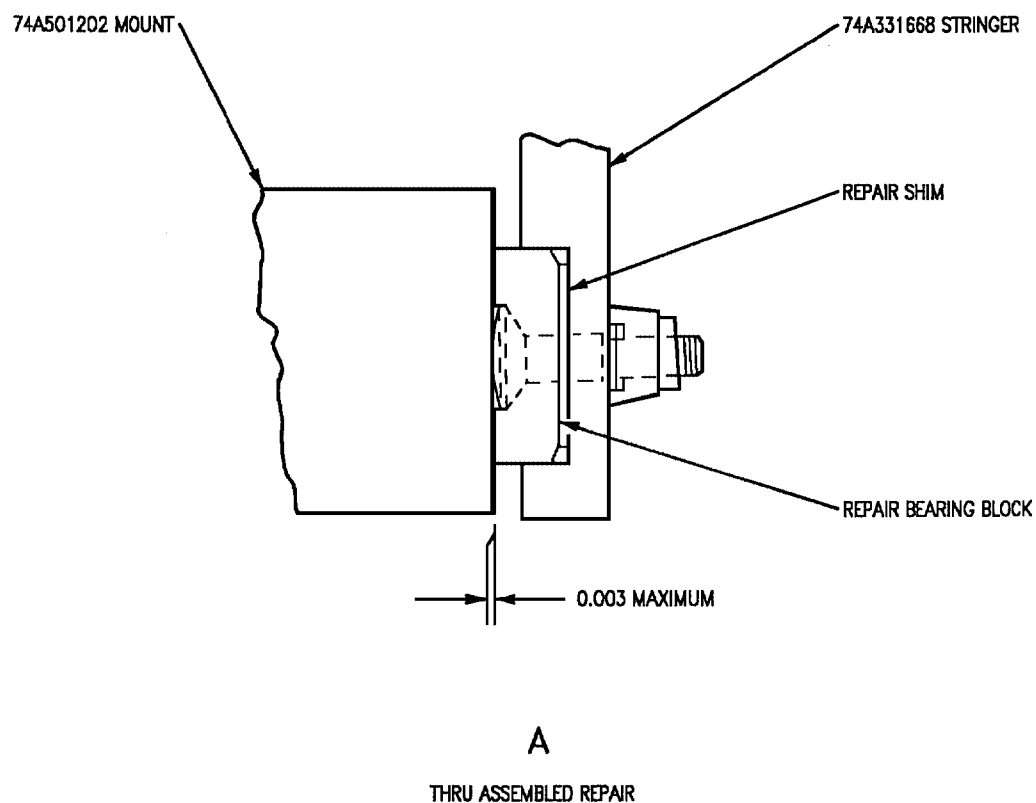


Figure 3. Bearing Block 745A331176 and Shim Repair (Sheet 1)



LEGEND

- 1 161353 THRU 161361.
- 2 161362 THRU 162477.
- 3 REQUIRED WHEN HLT53YC-6-{} PIN IS USED.

Figure 3. Bearing Block 745A331176 and Shim Repair (Sheet 2)

ORGANIZATIONAL AND DEPOT MAINTENANCE**STRUCTURE REPAIR****AFT FUSELAGE SEGMENT (KEEL) Y557.500 TO Y590.500**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Fire and Thermal Barrier Coating	WP009 00
Form In Place Sealing	WP010 00
Aft Fuselage Finish System and Markings	WP036 00
Fuel System	A1-F18AC-460-300
Fuel Storage System	WP009 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Fuselage Segment - Ctr, Aft Sect Y557.5-Y657.35 Assy of	FIG 008 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Fasteners	WP004 06
Oversize Fasteners	WP004 07
Cold Working Fastener Holes	WP004 10
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Patch Fabrication	WP006 01
Titanium Patch Fabrication	WP006 03
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Titanium Sheet, Free of Structure and Land Areas	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repairs	WP034 00
Titanium Sheet Edge Repairs	WP035 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons System Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Repairable Damage	2
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Permanent Repairs	3

Alphabetical Index (Continued)

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Cover (Door EBB)	5
Cover (Door EBC)	5
Cover 74A332554	5
Cover 74A586540	6
Removal and Installation of 74A332534 Web	6

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 IAFC 119	12 Jul 89	L/R Forward Engine Mount Support Structure, Replacement of (ECP MDA-F/A-18-00304)	1 Feb 90	-

1. **DAMAGE EVALUATION.** See figure 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Repair to titanium sheet across structure or land areas, 0.063 inch thick or greater, in zone B2 is depot maintenance. Damage not listed or exceeding the limits listed, requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00). For firewall sealant, and fire and thermal barrier coating, see WP023 00. Preparation and application of firewall sealant (A1-F18AC-SRM-200, WP011 00). Preparation and application of fire and thermal barrier coating (A1-F18AC-SRM-500, WP009 00).

7. PERMANENT REPAIRS.

8. Localized damage caused by the isolation valve to right hand engine bay web 74A332535, figure 1, item 52, is repaired in accordance with figure 3.

9. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet or titanium sheet as listed:

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

10. Cracks.

a. In repair zones A2, A3, A4 and B2, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Stop drill ends of crack in repair zone A2 or rout out crack in repair zone A3. Completely cut out crack in smallest diameter circle possible in repair zones A4 and B2.

(2) In repair zones A2 and A3, install lap patch.

(3) In repair zones A4 and B2, install type two flush or lap patch.

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone B3, repair cracks free of structure or land areas in aluminum sheet, 0.050 inch thick or less, or in titanium sheet, 0.025 inch thick or less, as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate aluminum patch (A1-F18AC-SRM-250, WP006 01) or titanium patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A2, A3, A4 and B2, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

NOTE

When making repair in repair zone B2, to 0.063 inch thick or greater material, all fastener holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling of interference fit holes is depot maintenance.

(2) In repair zones A2, A3, A4, and B2, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zones A2, A3, and A4, repair cracks to aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A2, A3, and A4, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. Holes.

a. In repair zones A2, A3, A4 and B2, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A2 and A3, install type one flush or lap patch. In repair zones A4 and B2, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone B3, repair holes free of structure or land areas in aluminum sheet, 0.050 inch thick or less, or in titanium sheet, 0.025 inch thick or less, as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate aluminum patch (A1-F18AC-SRM-250, WP006 01) or titanium patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A2, A3, A4, and B2, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

NOTE

When making repair in repair zone B2 to 0.063 inch thick or greater material, all fastener holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A2, A3, A4 and B2, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zones A2, A3 and A4, repair holes to aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A2, A3 and A4, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. **Edge.** In repair zones A2, A3, A4 and B2, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) or in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. Dents.

a. In repair zones A2, A3, A4, and B2 repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A2 and A3, install type one flush or lap patch. In repair zones A4 and B2, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone B3, repair dents free of structure or land areas in aluminum sheet, 0.050 inch thick or less, or in titanium sheet, 0.025 inch thick or less, as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate aluminum patch (A1-F18AC-SRM-250, WP006 01) or titanium patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A2, A3, A4 and B2, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

NOTE

When making repair in repair zone B2, 0.063 inch thick or greater material, all fastener holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004

06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A2, A3, A4, and B2, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zones A2, A3, and A4, repair dents to aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A2, A3, and A4, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

14. REPLACEMENT.

15. All covers are interchangeable. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).

16. **COVER (DOOR EBA).** See figure 4 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 008 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

17. **COVER (DOOR EBB).** See figure 5 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 008 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

18. **COVER (DOOR EBC).** See figure 6 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 008 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

19. **COVER 74A332554.** See figure 7 for attaching hardware. For fasteners (A1-F18AC-460-300, WP009

00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

20. **COVER 74A586540.** See figure 8 for attaching hardware. For fasteners (A1-F18AC-460-300, WP009 00).

21. **REMOVAL AND INSTALLATION OF 74A332534 WEB.** See figure 9 for replacement fasteners.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-38249, Type I
Sealing Compound	MIL-S-83430, Class B-4

22. Removal.

a. Remove firewall sealant with scraper.

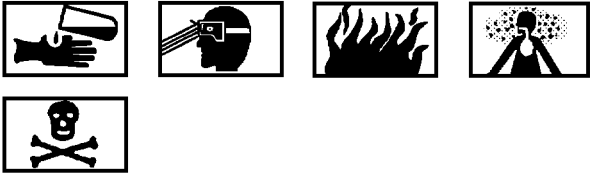


Be careful not to enlarge holes when drilling out fasteners. May cause structural failure.

b. Remove fasteners attaching web to structure.

c. Remove web.

23. Installation.



Isopropyl Alcohol

1

a. Clean area with clean cheesecloth moistened with isopropyl alcohol.



Sealing Compound

2

b. Fay surface seal with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

c. Align web to structure with temporary fasteners.

d. Install fasteners set wet with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

e. Refinish if required (A1-F18AC-SRM-500,WP036 00).



Sealing Compound

15

f. Apply sealing compound, firewall sealant MIL-S-38249, Type I (WP023 00).

Table 1. Negligible Damage Limits



















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (1)	Panel Zone A2	0.050	0.002	0.002	100%	0.025
Fig 1 (2) 	Stringer Zone A2 Zone A2	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (3) 	Stringer Zone A2 Zone A2	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (4) 	Stringer Zone A2 Zone A2	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (5)	Plate Zone A2	0.063	0.002	0.002	100%	
Fig 1 (6) 	Plate Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (7)	Support Zone A4	0.090	0.0006	0.0006	100%	
Fig 1 (8)	Closure Zone A4	0.090	0.0006	0.0006	100%	
Fig 1 (9)	Support Zone A3	0.063	0.002	0.002	100%	
Fig 1 (11)	Plate Zone B3 Zone B3 Zone B3	0.063 0.125 0.075	0.0006 0.0006 0.0006	0.0006 0.0006 0.0006	100% 100% 100%	  0.038
Fig 1 (12)	Door EBC Zone A3 Zone A3 Zone B3	0.040 0.050 0.016	0.002 0.002 0.0006	0.0006 0.0006 0.0006	100% 100% 100%	  0.008
Fig 1 (13)	Base Zone A3	0.032	0.002	0.002	100%	
Fig 1 (14)	Floor Zone A2	0.050	0.002	0.002	100%	0.025
Fig 1 (15)	Cover Zone B2 Zone B2	0.071 0.050	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.025

Table 1. Negligible Damage Limits (Continued)

























Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (16) 	Plate Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (17) 	Plate Zone A3 Zone A3	0.050 0.050	0.002 0.002	0.002 0.002	100% 100%	 0.025
Fig 1 (18) 	Plate Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.013
Fig 1 (19)	Support Zone A3	0.050	0.002	0.002	100%	
Fig 1 (21)	Plate Zone B3 Zone B3	0.070 0.090	0.0006 0.0006	0.0006 0.0006	100% 100%	 
Fig 1 (22)	Plate Zone A3	0.040	0.002	0.002	100%	
Fig 1 (23) 	Plate Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (24) 	Plate Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (25)	Door EBA Zone A3 Zone B3	0.040 0.016	0.002 0.0006	0.002 0.0006	100% 100%	 0.008
Fig 1 (22) 	Plate Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (27)	Plate Zone A3	0.063	0.002	0.002	100%	
Fig 1 (28) 	Stringer Zone A3 Zone A3	0.050 0.050	0.002 0.002	0.002 0.002	100% 100%	 0.025
Fig 1 (29) 	Stringer Zone A3 Zone A3	0.070 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (30) 	Stringer Zone A3 Zone A3	0.070 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032

Table 1. Negligible Damage Limits (Continued)













































Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (31) 	Stringer Zone A3 Zone A3	0.070 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (32) 	Stringer Zone B3 Zone B3	0.063 0.063	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.032
Fig 1 (33) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.032
Fig 1 (34) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.032
Fig 1 (35) 	Stringer Zone A3 Zone A3	0.070 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (36) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.032
Fig 1 (37) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.032
Fig 1 (38) 	Stringer Zone A2 Zone A2	0.070 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (39) 	Stringer Zone B3 Zone B3	0.063 0.063	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.032
Fig 1 (40) 	Support Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (41) 	Plate Zone A2 Zone A2	0.040 0.040	0.002 0.002	0.002 0.002	100% 100%	 0.020
Fig 1 (42) 	Support Zone A3 Zone A3	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032
Fig 1 (43) 	Stringer Zone A2 Zone A2	0.063 0.063	0.002 0.002	0.002 0.002	100% 100%	 0.032


Table 1. Negligible Damage Limits (Continued)


Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (44)	Stiffener Zone A2	0.063	0.002	0.002	100%	
Fig 1 (46) 	Web Zone A3	0.040	0.002	0.002	100%	
	Zone A3	0.032	0.002	0.002	100%	
	Zone A3	0.032	0.002	0.002	100%	0.016
	Zone A3	0.025	0.001	0.001	100%	0.013
Fig 1 (47) 	Web Zone A3	0.040	0.002	0.002	100%	
	Zone A3	0.032	0.002	0.002	100%	
	Zone A3	0.032	0.002	0.002	100%	0.016
	Zone A3	0.025	0.001	0.001	100%	0.013
Fig 1 (48)	Web Zone A3	0.050	0.002	0.002	100%	
	Zone A3	0.040	0.002	0.002	100%	
	Zone A3	0.016	0.002	0.002	100%	0.008
	Zone A3	0.032	0.002	0.002	100%	0.016
Fig 1 (49)	Web Zone A3	0.050	0.002	0.002	100%	
	Zone A3	0.040	0.002	0.002	100%	
	Zone A3	0.032	0.002	0.002	100%	0.016
	Zone A3	0.016	0.002	0.002	100%	0.008
Fig 1 (50)	Web Zone B3	0.080	0.0006	0.0006	100%	
	Zone B3	0.020	0.0006	0.0006	100%	
	Zone B3	0.050	0.0006	0.0006	100%	
Fig 1 (51) 	Web Zone B3	0.025	0.0006	0.0006	100%	
	Zone B3	0.025	0.0006	0.0006	100%	
	Zone B3	0.050	0.0006	0.0006	100%	0.025
	Zone B3	0.063	0.0006	0.0006	100%	0.032
	Zone B3	0.040	0.0006	0.0006	100%	0.020
	Zone B3	0.020	0.0006	0.0006	100%	0.010
Fig 1 (52)	Door EBB Zone A3	0.040	0.002	0.002	100%	
	Zone B3	0.020	0.002	0.0006	100%	0.010
	Zone B3	0.016	0.002	0.0006	100%	0.008


Table 1. Negligible Damage Limits (Continued)


Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (53)	Web					
	Zone B3	0.080	0.0006	0.0006	100%	
	Zone A3	0.071	0.002	0.002	100%	
	Zone A3	0.050	0.002	0.002	100%	
	Zone B3	0.040	0.0006	0.0006	100%	
	Zone A3	0.040	0.002	0.002	100%	
	Zone A3	0.032	0.002	0.002	100%	0.016
	Zone A3	0.030	0.002	0.002	100%	
	Zone B3	0.020	0.0006	0.0006	100%	
	Zone A3	0.020	0.001	0.001	100%	0.010
Fig 1 (54)	Web					
	Zone B3	0.080	0.0006	0.0006	100%	
	Zone A3	0.071	0.002	0.002	100%	
	Zone B3	0.040	0.0006	0.0006	100%	
	Zone A3	0.040	0.002	0.0006	100%	
	Zone B3	0.020	0.0006	0.0006	100%	
	Zone A3	0.032	0.002	0.0006	100%	
	Zone B3	0.016	0.0006	0.0006	100%	0.008
Fig 1 (55)	Web					
	Zone B3	0.080	0.0006	0.0006	100%	
	Zone B3	0.032	0.0006	0.0006	100%	
	Zone B3	0.050	0.0006	0.0006	100%	
	Zone B3	0.016	0.0006	0.0006	100%	0.008
Fig 1 (57)	Support					
	Zone B4	All	0.0006	0.0006	100%	
	Zone C4	All	0.0006	0.0006	100%	

NOTES

 Web area.

 Free standing leg.

 Land area.

 Upper land area.


 None allowed.

Table 2. Repairable Damage Limits After Blending





Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (1)	Panel Zone A2	0.050	0.045	0.010	0.010	50%	0.010	50%
Fig 1 (2) 	Stringer Zone A2 Zone A2	0.063 0.063	0.045 NA	0.013 0.013	0.013 0.013	30% 60%	0.013 0.013	30% 60%
Fig 1 (3) 	Stringer Zone A2 Zone A2	0.063 0.063	0.045 NA	0.013 0.013	0.013 0.013	20% 50%	0.013 0.013	20% 50%
Fig 1 (4) 	Stringer Zone A2 Zone A2	0.063 0.063	0.045 NA	0.013 0.013	0.013 0.013	20% 60%	0.013 0.013	20% 60%
Fig 1 (5)	Plate Zone A2	0.063	0.045	0.013	0.013	60%	0.013	60%
Fig 1 (6) 	Plate Zone A3 Zone A3	0.063 0.063	0.050 0.870	0.013 0.013	0.013 0.013	10% 50%	0.013 0.013	10% 50%
Fig 1 (7)	Support Zone A4	0.090	0.045	0.018	0.018	25%	0.018	25%
Fig 1 (8)	Closure Zone A4	0.090	0.045	0.018	0.018	25%	0.018	25%
Fig 1 (9)	Support Zone A3	0.063	0.045	0.013	0.013	10%	0.013	10%
Fig 1 (11)	Plate Zone B3 Zone B3 Zone B3	0.063 0.125 0.075	0.030 0.030 NA	0.013 0.025 0.015	0.013 0.025 0.015	30% 10% 30%	0.013 0.025 0.015	30% 10% 30%
Fig 1 (12)	Door EBC Zone A3 Zone A3 Zone B3	0.040 0.050 0.016	0.060 0.060 NA	0.008 0.010 0.003	0.008 0.010 0.003	10% 10% 50%	0.008 0.010 0.003	10% 10% 50%
Fig 1 (13)	Base Zone A3	0.032	0.006	0.006	0.006	10%	0.006	10%
Fig 1 (14)	Floor Zone A2	0.050	0.045	0.010	0.010	50%	0.010	50%
Fig 1 (15)	Cover Zone B2 Zone B2	0.071 0.050	0.050 NA	0.014 0.010	0.014 0.010	10% 60%	0.014 0.010	10% 60%

Table 2. Repairable Damage Limits After Blending (Continued)







Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (16) 	Plate	0.063	0.045	0.013	0.013	10%	0.013	10%
	Zone A3	0.063	0.045	0.013	0.013	30%	0.013	30%
Fig 1 (17) 	Plate	0.050	0.050	0.010	0.010	10%	0.010	10%
	Zone A3	0.050	0.045	0.010	0.010	50%	0.010	50%
Fig 1 (18) 	Plate	0.063	0.045	0.013	0.013	10%	0.013	10%
	Zone A3	0.063	0.070	0.013	0.013	50%	0.013	50%
Fig 1 (19)	Support	0.050	0.045	0.010	0.010	10%	0.010	10%
Fig 1 (21)	Plate	0.070	0.060	0.014	0.014	20%	0.014	20%
	Zone A3	0.080	0.060	0.018	0.018	10%	0.018	10%
Fig 1 (22)	Plate	0.040	0.050	0.008	0.008	10%	0.008	10%
Fig 1 (23) 	Plate	0.063	0.050	0.013	0.013	10%	0.013	10%
	Zone A3	0.063	0.050	0.013	0.013	60%	0.013	60%
Fig 1 (24)	Plate	0.063	0.045	0.013	0.013	30%	0.013	30%
Fig 1 (25)	Door EBA	0.040	0.060	0.008	0.008	10%	0.008	10%
	Zone A3	0.016	NA	0.003	0.003	30%	0.003	30%
Fig 1 (26)	Plate	0.063	0.0006	0.012	0.012	20%	0.012	20%
Fig 1 (27)	Plate	0.063	0.050	0.013	0.013	50%	0.013	50%
Fig 1 (28) 	Stringer	0.050	0.050	0.010	0.010	10%	0.010	10%
	Zone A3	0.050	0.025	0.010	0.010	50%	0.010	50%
Fig 1 (29) 	Stringer	0.070	0.050	0.014	0.014	10%	0.014	10%
	Zone A3	0.063	0.050	0.013	0.013	50%	0.013	50%
Fig 1 (30)	Stringer	0.070	0.050	0.014	0.014	10%	0.014	10%
	Zone A3	0.063	0.050	0.013	0.013	50%	0.013	50%

Table 2. Repairable Damage Limits After Blending (Continued)













Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (31) 	Stringer Zone A3 Zone A3	0.070 0.063	0.050 0.050	0.014 0.013	0.014 0.013	10% 50%	0.014 0.013	10% 50%
Fig 1 (32)	Stringer Zone B3	0.063	0.0006	0.013	0.013	25%	0.013	25%
Fig 1 (33) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.050	0.014 0.013	0.014 0.013	10% 30%	0.014 0.013	10% 30%
Fig 1 (34) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.050	0.014 0.013	0.014 0.013	10% 30%	0.014 0.013	10% 30%
Fig 1 (35) 	Stringer Zone A3 Zone A3	0.070 0.063	0.050 0.025	0.014 0.013	0.014 0.013	10% 20%	0.014 0.013	10% 20%
Fig 1 (36) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.050	0.014 0.013	0.014 0.013	10% 20%	0.014 0.013	10% 20%
Fig 1 (37) 	Stringer Zone B3 Zone B3	0.070 0.063	0.0006 0.050	0.014 0.013	0.014 0.013	10% 30%	0.014 0.013	10% 30%
Fig 1 (38) 	Stringer Zone A2 Zone A2	0.070 0.063	0.045 0.050	0.014 0.013	0.014 0.013	10% 50%	0.014 0.013	10% 50%
Fig 1 (39) 	Stringer Zone B3 Zone B3	0.063 0.063	0.0006 0.050	0.013 0.013	0.013 0.013	10% 40%	0.013 0.013	10% 40%
Fig 1 (40) 	Support Zone A3 Zone A3	0.063 0.063	0.050 0.100	0.013 0.013	0.013 0.013	10% 50%	0.013 0.013	10% 50%
Fig 1 (41) 	Plate Zone A2 Zone A2	0.040 0.040	0.045 NA	0.008 0.008	0.008 0.008	10% 50%	0.008 0.008	10% 50%
Fig 1 (42) 	Support Zone A3 Zone A3	0.063 0.063	0.050 0.100	0.013 0.013	0.013 0.013	10% 50%	0.013 0.013	10% 50%
Fig 1 (43) 	Stringer Zone A2 Zone A2	0.063 0.063	0.045 NA	0.013 0.013	0.013 0.013	10% 60%	0.013 0.013	10% 60%

Table 2. Repairable Damage Limits After Blending (Continued)




Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (44)	Stiffener Zone A2	0.063	0.045	0.013	0.013	20%	0.013	20%
Fig 1 (46) 	Web	0.040	0.045	0.008	0.008	10%	0.008	10%
	Zone A3	0.032	0.045	0.006	0.006	10%	0.006	10%
	Zone A3	0.032	NA	0.006	0.006	50%	0.006	50%
	Zone A3	0.025	NA	0.005	0.005	50%	0.005	50%
Fig 1 (47) 	Web	0.040	0.045	0.008	0.008	10%	0.008	10%
	Zone A3	0.032	0.045	0.006	0.006	10%	0.006	10%
	Zone A3	0.032	NA	0.006	0.006	50%	0.006	50%
	Zone A3	0.025	NA	0.005	0.005	50%	0.005	50%
Fig 1 (48)	Web	0.050	0.045	0.010	0.010	10%	0.010	10%
	Zone A3	0.040	0.045	0.008	0.008	10%	0.008	10%
	Zone A3	0.016	0.045	0.003	0.003	50%	0.003	50%
	Zone A3	0.032	NA	0.006	0.006	50%	0.006	50%
Fig 1 (49)	Web	0.050	0.045	0.010	0.010	10%	0.010	10%
	Zone A3	0.040	0.045	0.008	0.008	10%	0.008	10%
	Zone A3	0.032	NA	0.006	0.006	50%	0.006	50%
	Zone A3	0.016	0.045	0.003	0.003	50%	0.003	50%
Fig 1 (50)	Web	0.080	0.0006	0.016	0.016	10%	0.016	10%
	Zone B3	0.020	0.0006	0.004	0.004	10%	0.004	10%
	Zone B3	0.050	0.0006	0.010	0.010	30%	0.010	30%
Fig 1 (51) 	Web	0.025	NA	0.005	0.005	30%	0.005	30%
	Zone B3	0.025	NA	0.005	0.005	30%	0.005	30%
	Zone B3	0.050	0.0006	0.010	0.010	30%	0.010	30%
	Zone B3	0.063	0.0006	0.013	0.013	30%	0.013	30%
	Zone B3	0.040	0.0006	0.008	0.008	30%	0.008	30%
	Zone B3	0.020	0.0006	0.004	0.004	30%	0.004	30%
Fig 1 (52)	Door EBB							
	Zone A3	0.040	0.050	0.008	0.008	10%	0.008	10%
	Zone B3	0.020	NA	0.004	0.004	30%	0.004	30%
	Zone B3	0.016	NA	0.003	0.003	30%	0.003	30%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (53)	Web							
	Zone B3	0.080	0.0006	0.016	0.016	20%	0.016	20%
	Zone A3	0.071	0.075	0.014	0.014	20%	0.014	20%
	Zone A3	0.050	0.050	0.010	0.010	20%	0.010	20%
	Zone B3	0.040	0.0006	0.008	0.008	20%	0.008	20%
	Zone A3	0.040	0.050	0.008	0.008	20%	0.008	20%
	Zone A3	0.032	NA	0.006	0.006	40%	0.006	40%
	Zone A3	0.030	0.050	0.006	0.006	50%	0.006	50%
	Zone B3	0.020	0.0006	0.004	0.004	50%	0.004	50%
	Zone A3	0.020	0.050	0.004	0.004	20%	0.004	20%
Fig 1 (54)	Web							
	Zone B3	0.080	0.0006	0.016	0.016	20%	0.016	20%
	Zone A3	0.071	0.075	0.014	0.014	20%	0.014	20%
	Zone B3	0.040	0.0006	0.008	0.008	20%	0.008	20%
	Zone A3	0.040	0.050	0.008	0.008	20%	0.008	20%
	Zone B3	0.020	0.0006	0.004	0.004	20%	0.004	20%
	Zone A3	0.032	0.050	0.006	0.006	50%	0.006	50%
	Zone B3	0.016	NA	0.003	0.003	50%	0.003	50%
Fig 1 (55)	Web							
	Zone B3	0.080	0.0006	0.016	0.016	20%	0.016	20%
	Zone B3	0.032	0.0006	0.006	0.006	20%	0.006	20%
	Zone B3	0.050	0.0006	0.010	0.010	20%	0.010	20%
	Zone B3	0.016	NA	0.003	0.003	30%	0.003	30%
Fig 1 (57)	Support							
	Zone B4	0.100	0.0006	0.005	0.005	10%	0.005	10%
	Zone B4	0.300	0.0006	0.015	0.015	10%	0.015	10%
	Zone B4	0.180	0.0006	0.009	0.009	10%	0.009	10%
	Zone B4	0.080	0.0006	0.004	0.004	10%	0.004	10%
	Zone B4	0.200	0.0006	0.010	0.010	10%	0.010	10%
	Zone C4	1.000	0.0006	0.050	0.050	5%	0.050	5%

NOTES

- 1 Web area
- 2 Free standing leg.
- 3 Land area.
- 4 Upper land area.

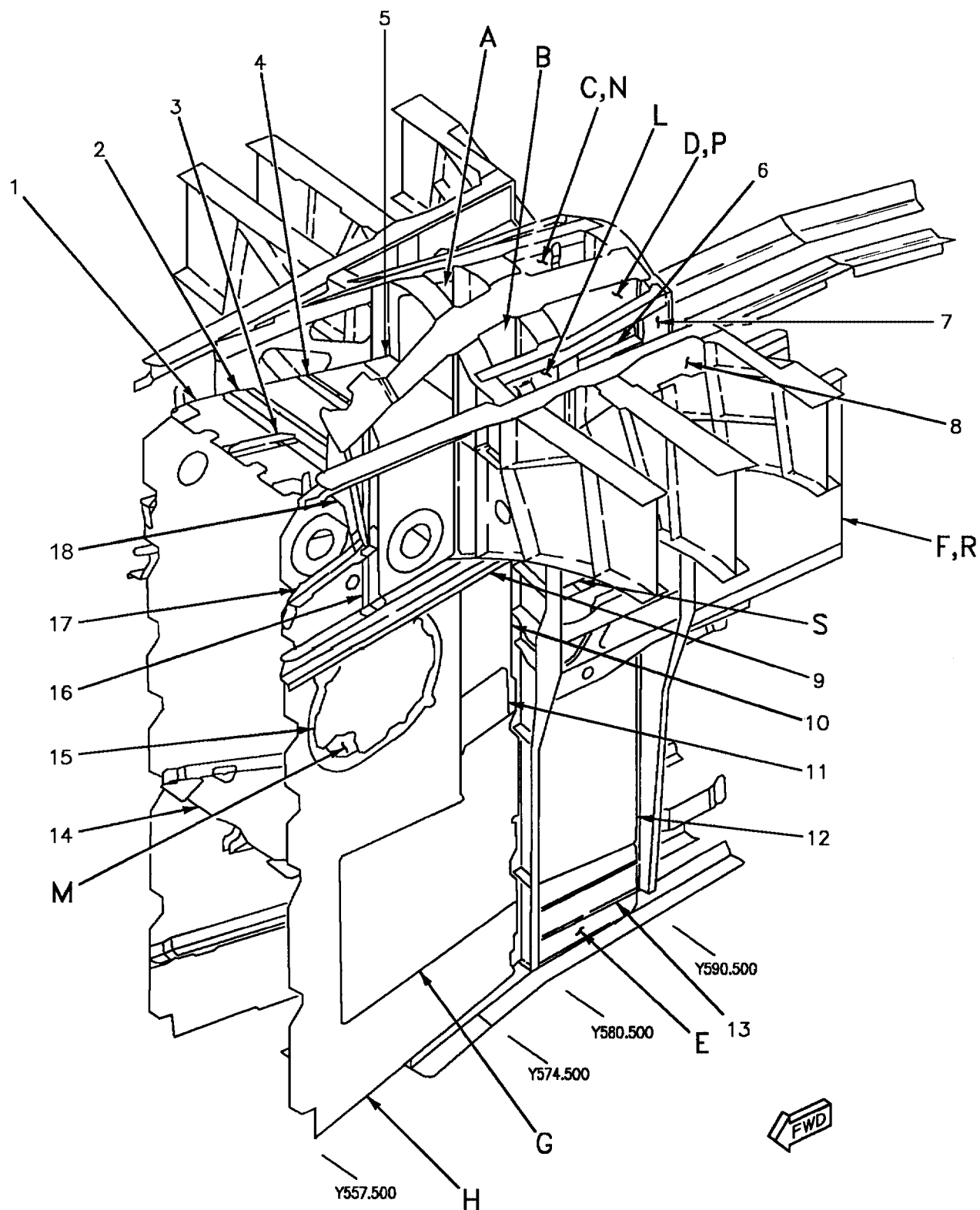


Figure 1. Material Index (Sheet 1)

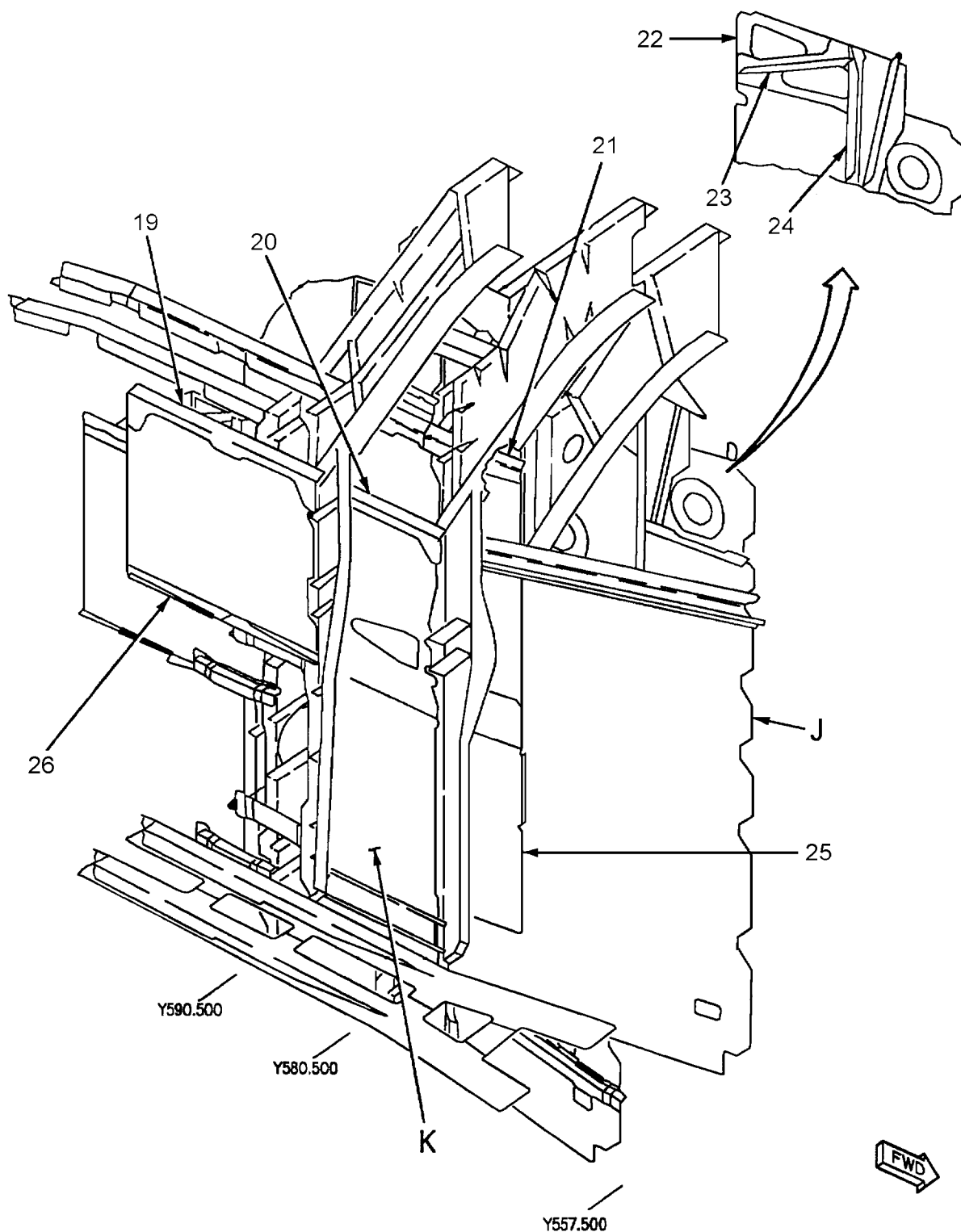


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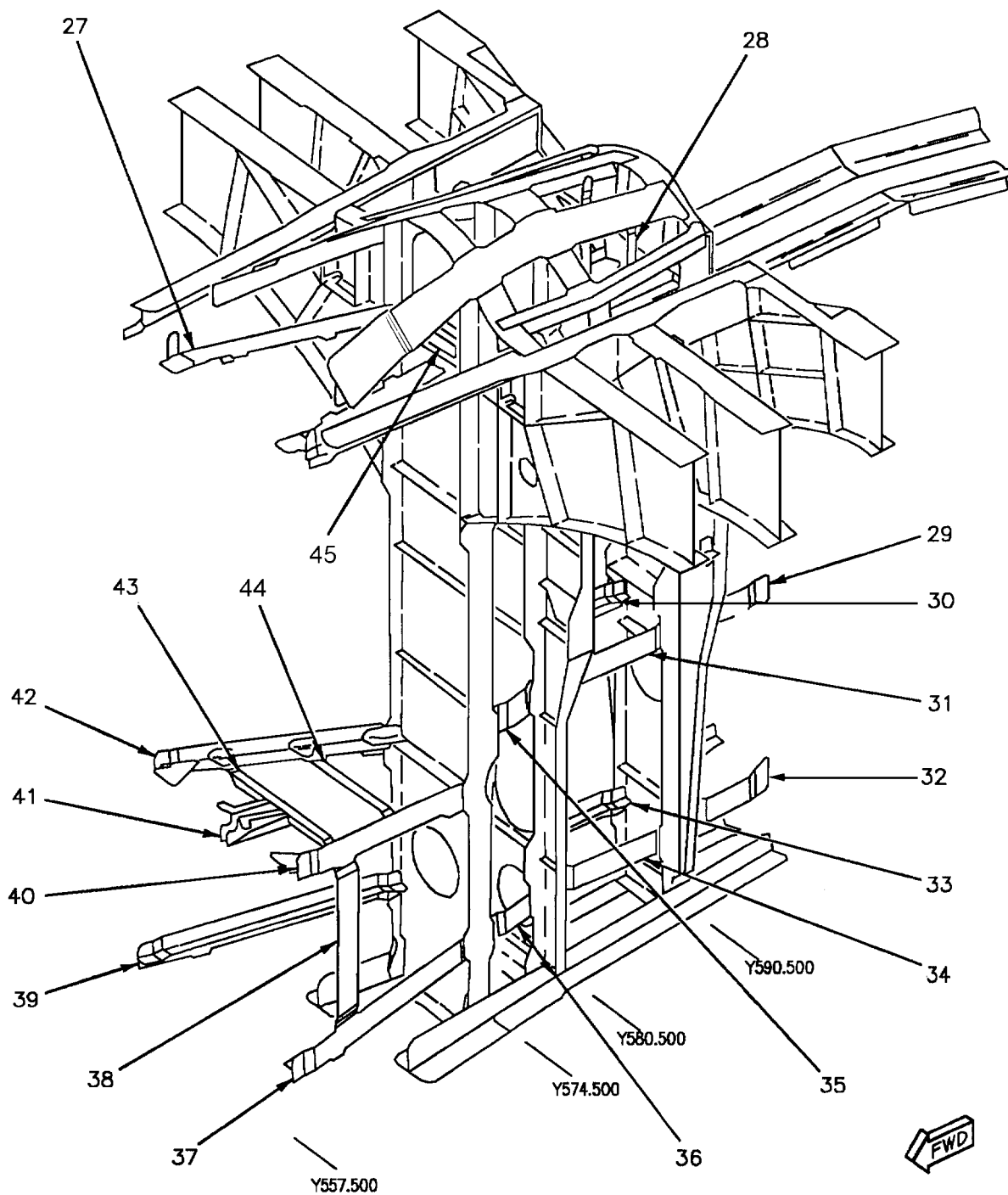


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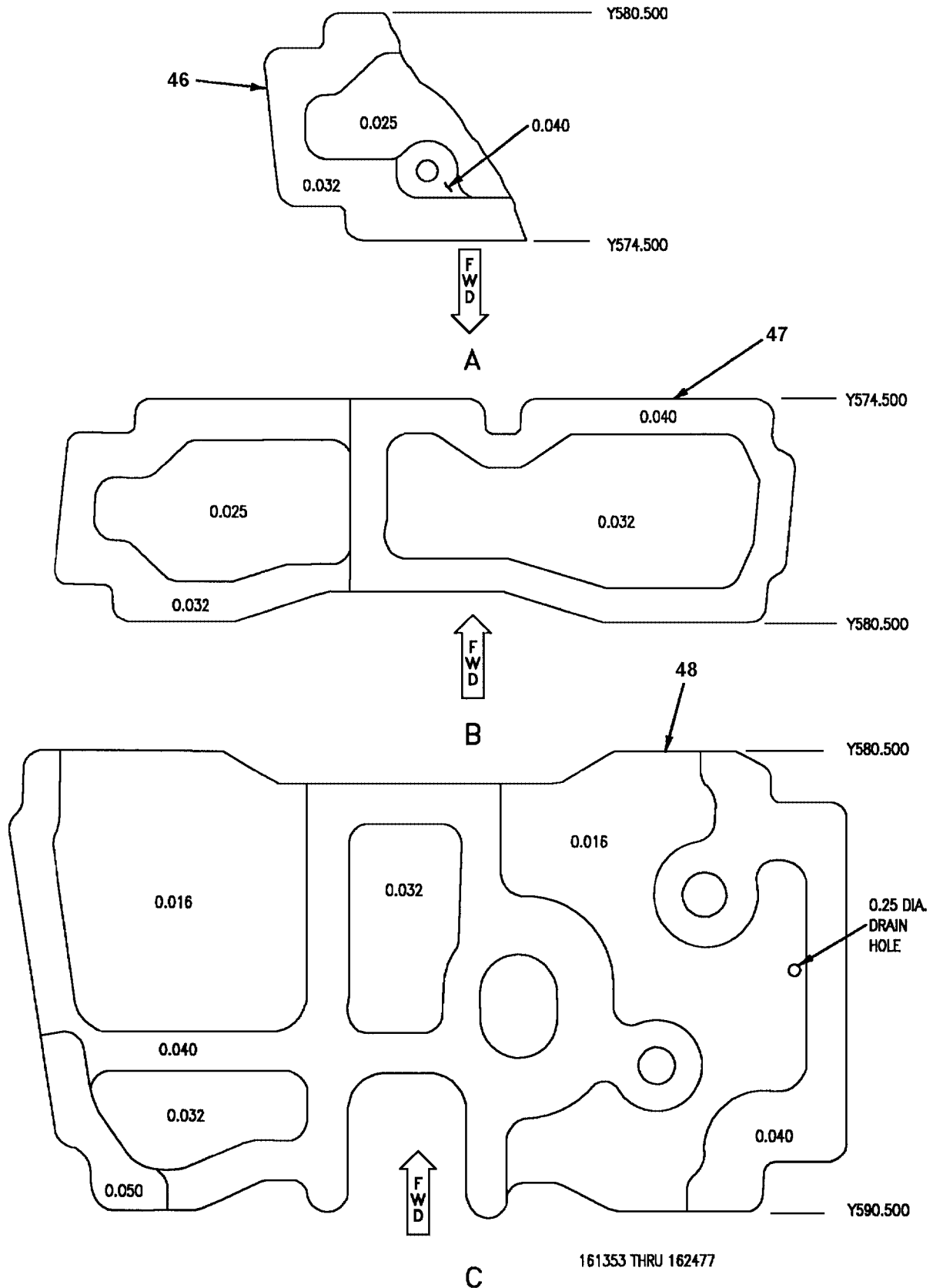


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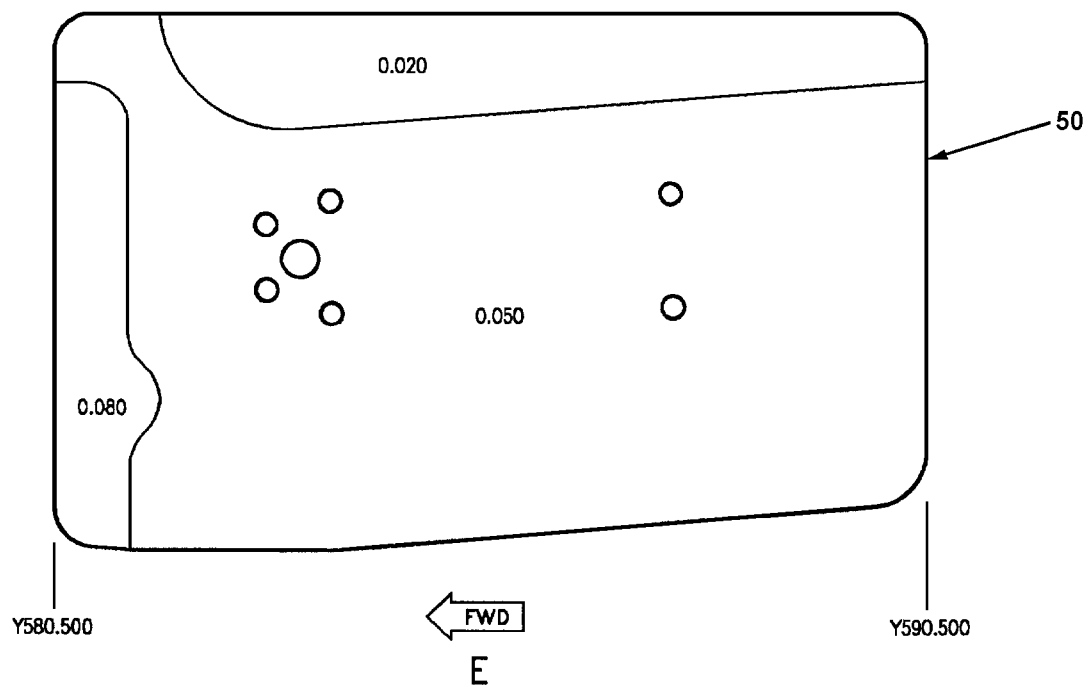
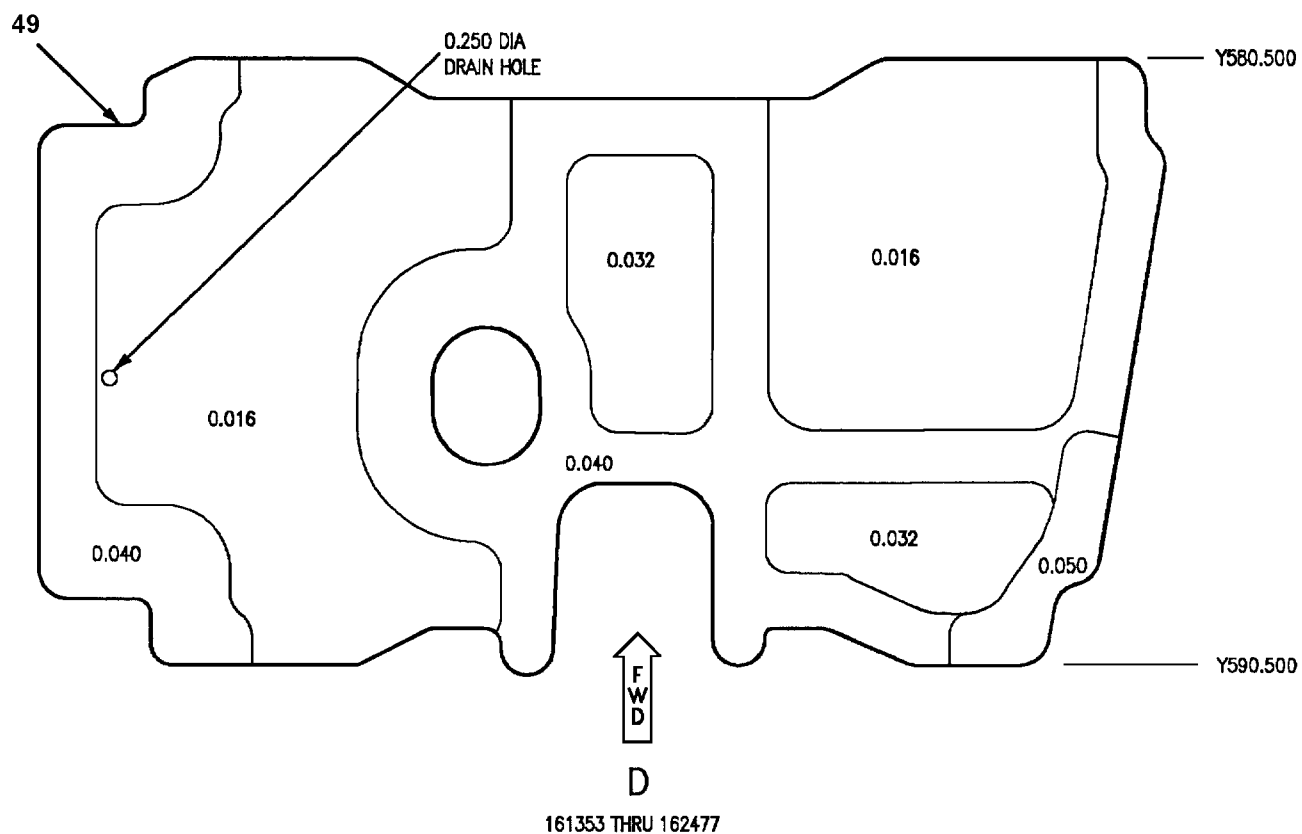


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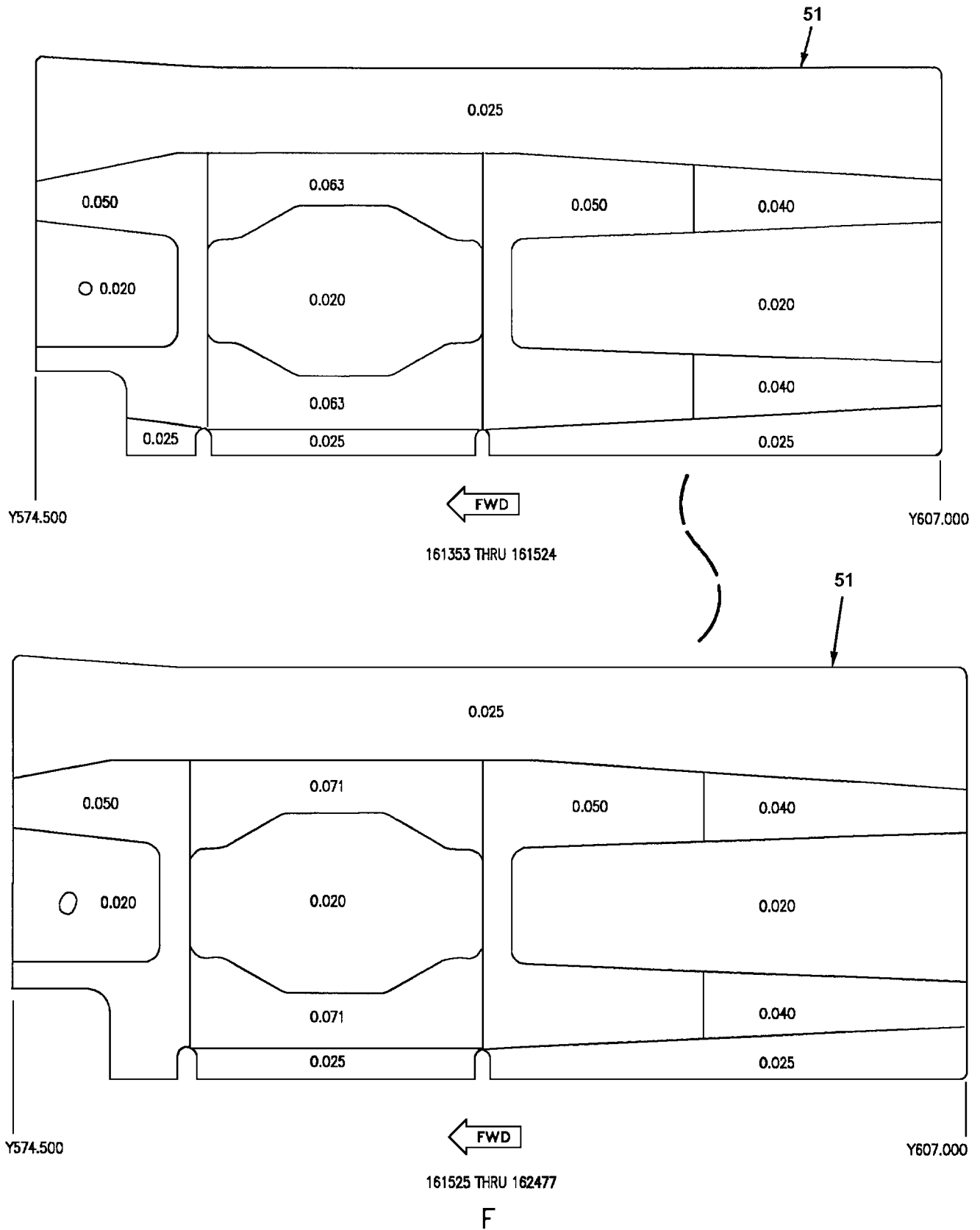


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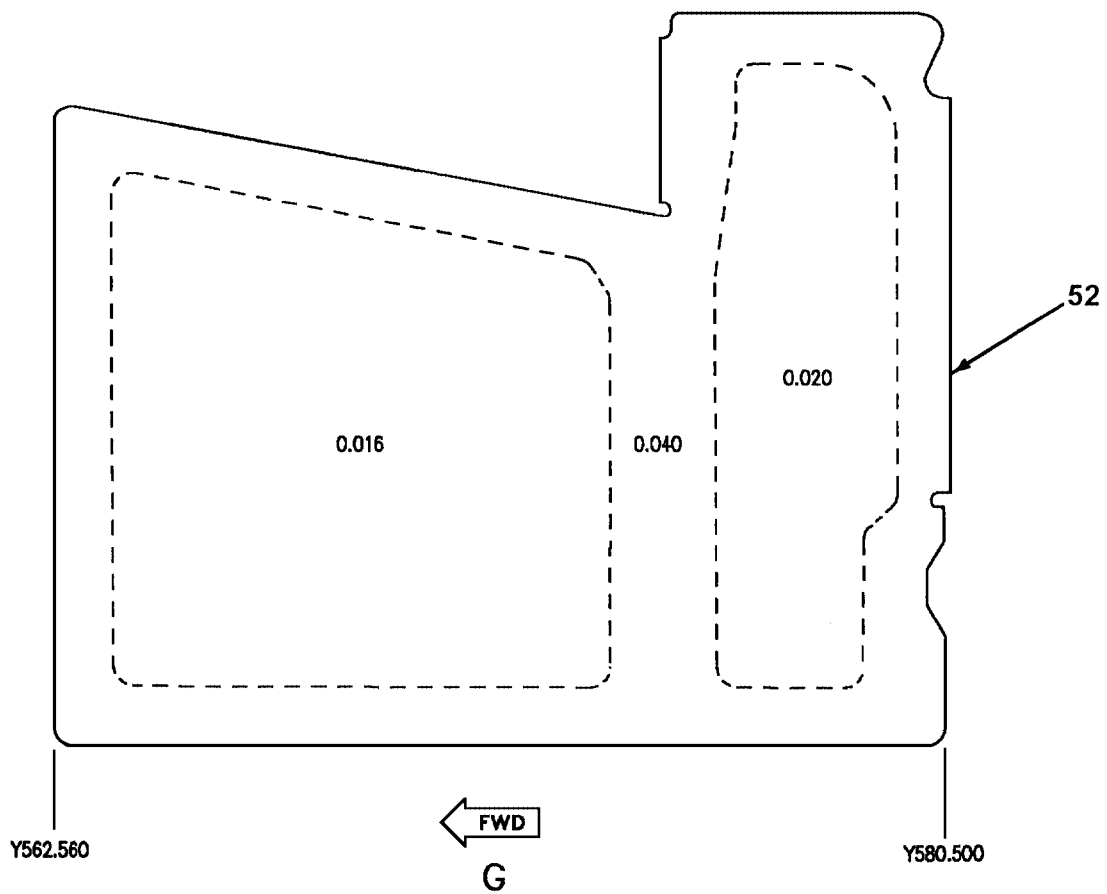


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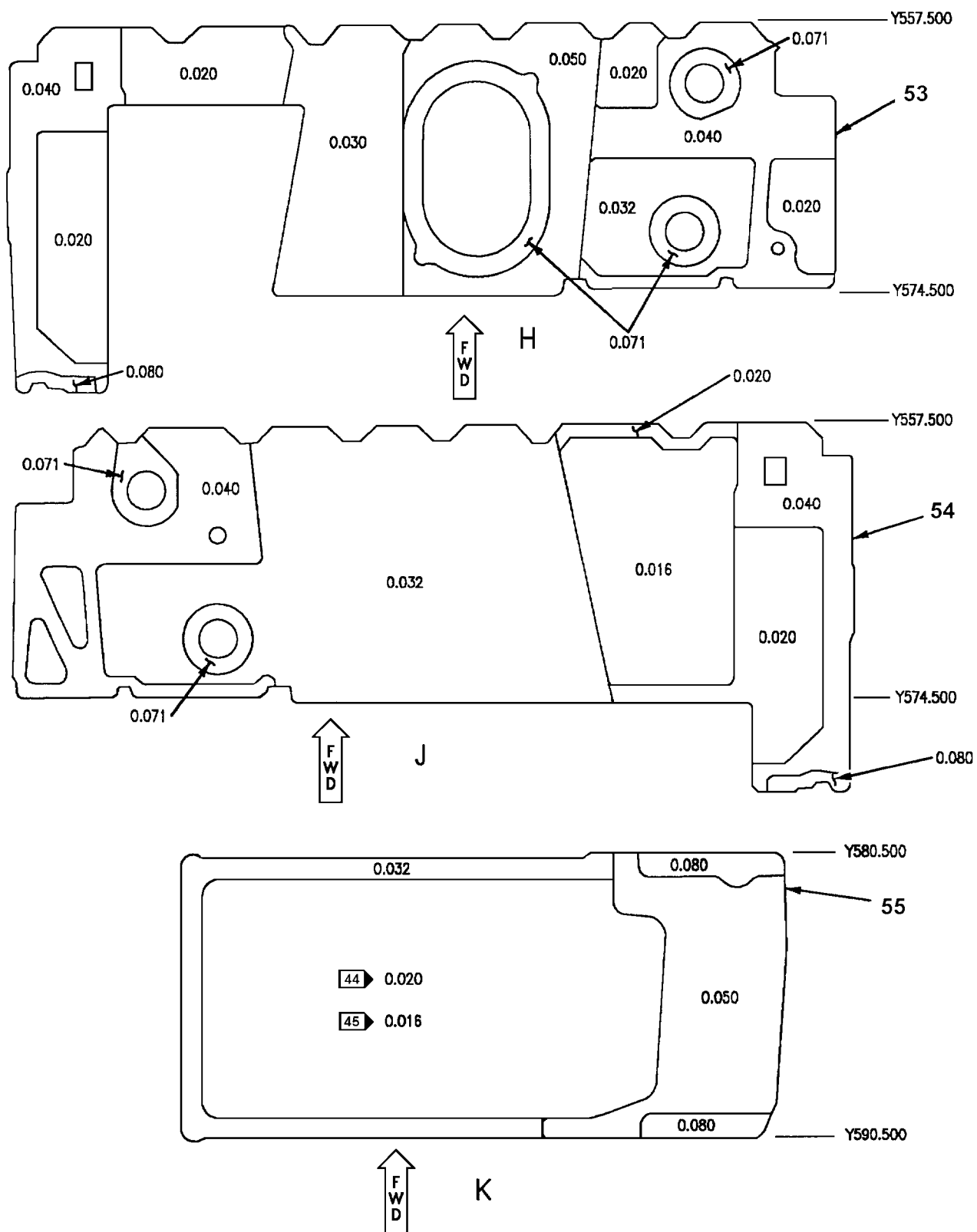


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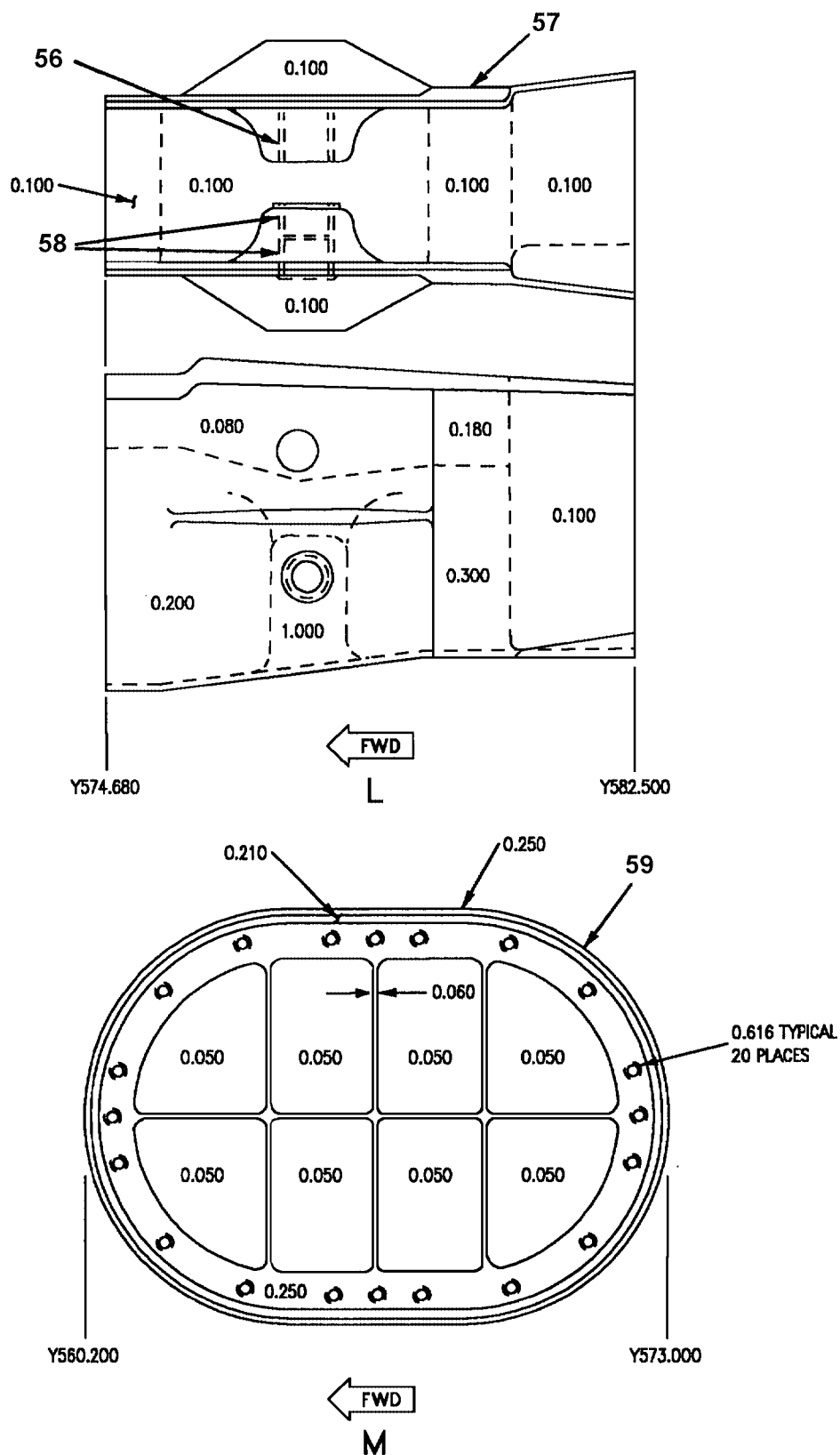


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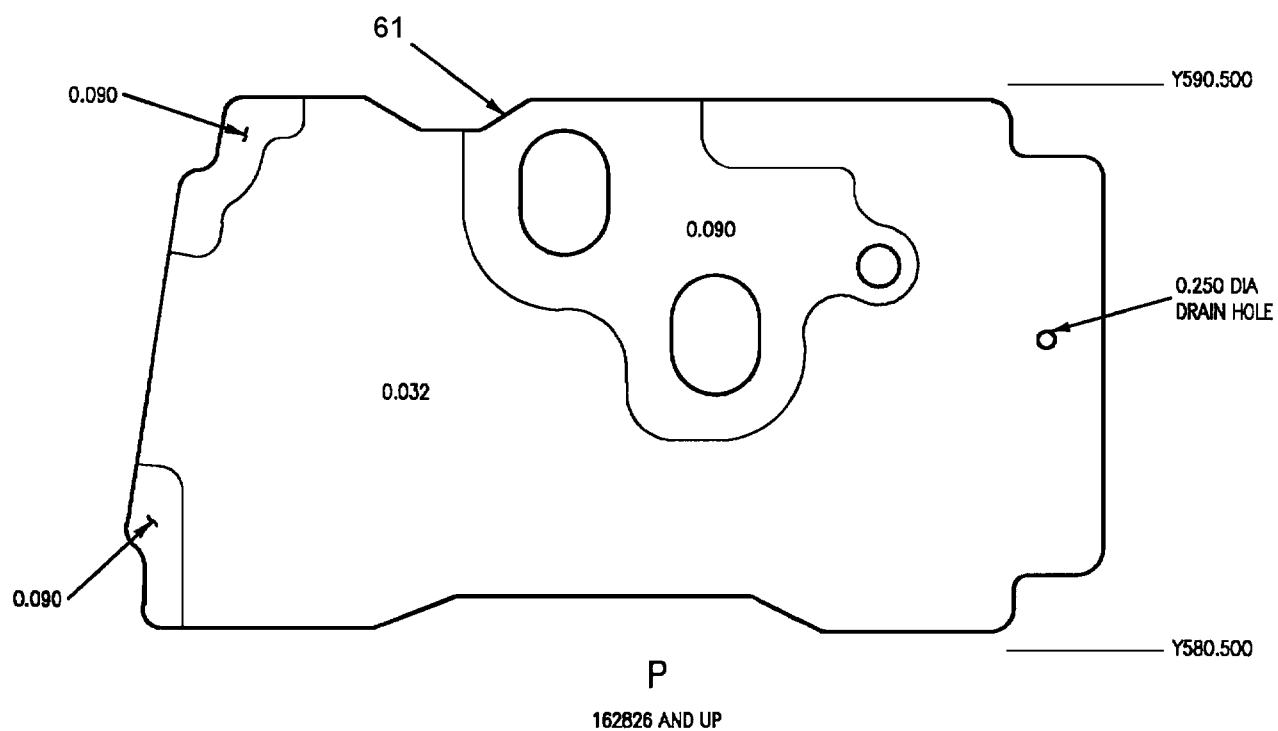
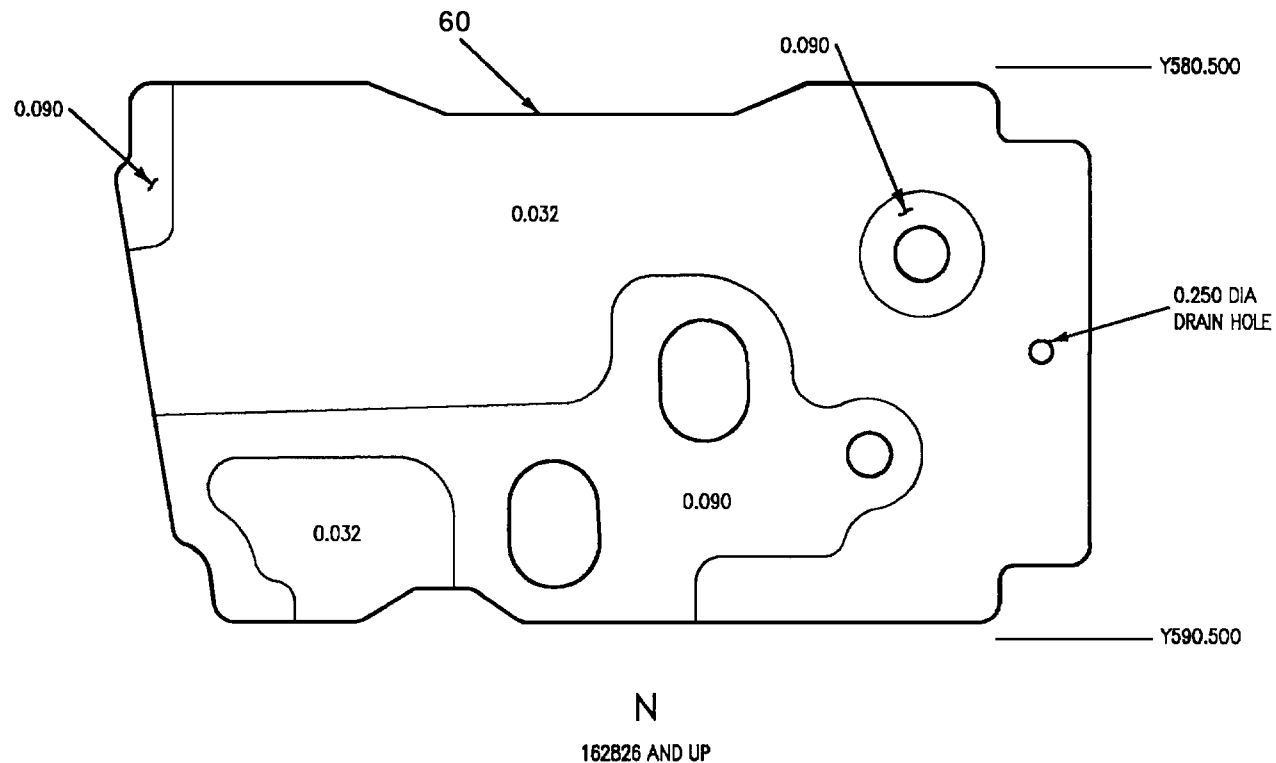


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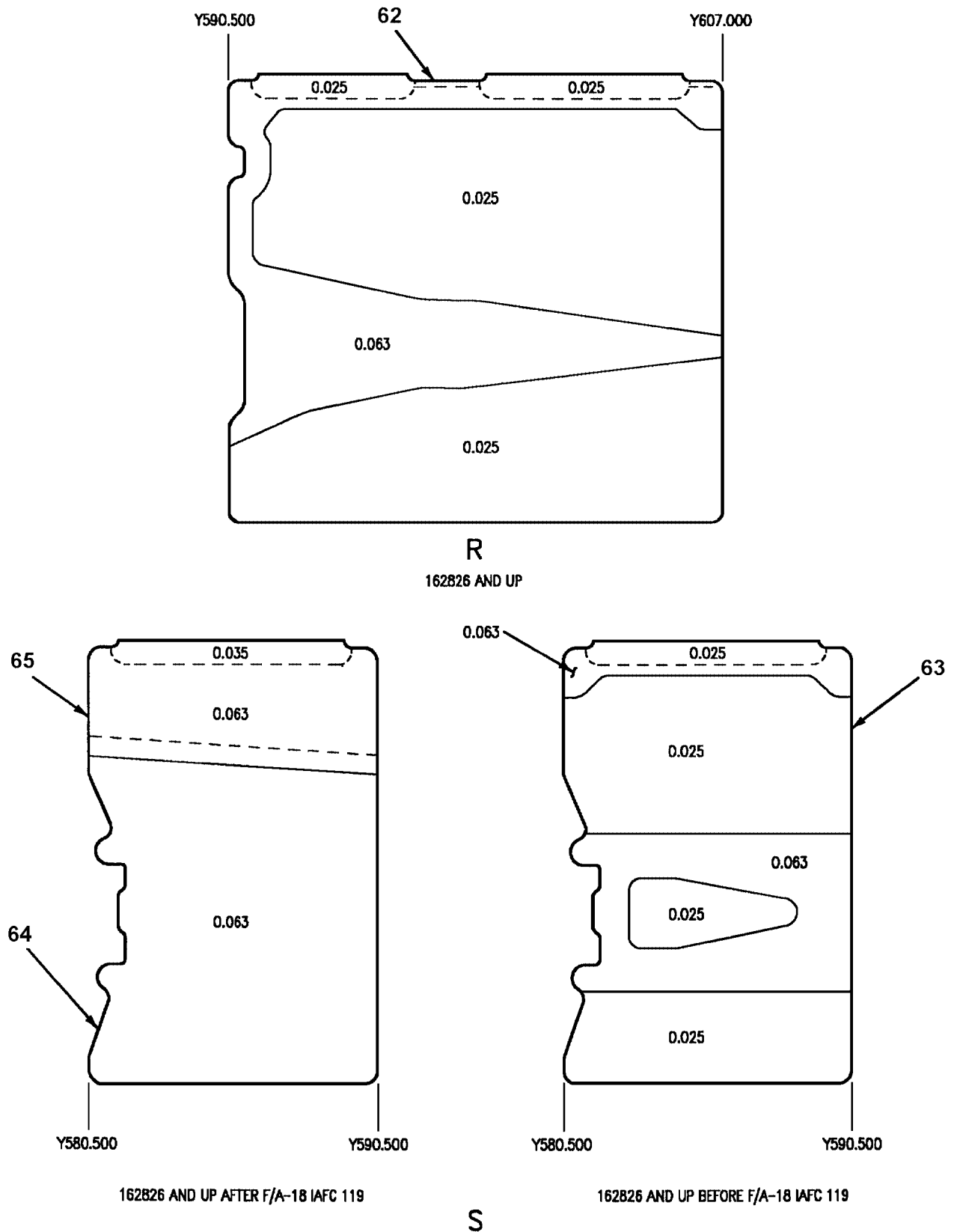


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






















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2		Stringer 74A332539-2011	1MA180D06-10092 Extr	7075-T76511 Al Aly
3	 	Stringer 74A332539-2009 74A332539-2017	1MA160D01-10218 Extr	7075-T76 Al Aly
4		Stringer 74A332539-2001	1MA180D06-10092 Extr	7075-T76511 Al Aly
5		Plate 74A332543-2017	0.063 Sheet	6Al-4V Ti Anl
6		Plate 74A332543-2079, -2080	0.063 Sheet	6Al-4V Ti Anl
7	   	Support 74A332134-2001, -2002 74A332134-9001, -9002 74A332134-9003, -9004 74A332134-2017, -2018	0.090 Sheet	7075-T76 Alclad
8	  	Closure Angle 74A332133-2003, -2004 74A332133-9001, -9002 74A332133-2005, -2006	0.090 Sheet	7075-T 76 Alclad
9	  	Support 74A330828-2009, -2010 74A330828-2011, -2012 74A330828-2019, -2020	0.063 Sheet	6Al-4V Ti Anl
10		Web 74A332534-2017, -2018	0.025 Sheet	6Al-4V Ti Anl
11	  	Web 74A332534-9003 74A332534-2011, -2012 Plate 74A332534-2023	0.063 Sheet  Sheet 0.025 Sheet	6Al-4V Ti Anl
12	  	Cover (Door EBC) 74A332556-9003 74A332556-2005 74A332556-2007	 Sheet  Sheet	6Al-4V Ti Anl
13		Base 74A501061-2003, -2004	0.032 Sheet	Ti - 70 Anl

Figure 1. Material Index (Sheet 12)

















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15		Cover 74A332554-2001	 Sheet	6Al-4V Ti Anl
16		Plate 74A332543-2061	0.063 Sheet	6Al-4V Ti Anl
17		Plate 74A332543-2081, -2082	0.050 Sheet	6Al-4V Ti Anl
18		Plate 74A332543-2059, -2060	0.063 Sheet	6Al-4V Ti Anl
19	 	Support 74A330828-2008, -2007 74A330828-2016, -2017	0.050 Sheet	6Al-4V Ti Anl
20		Support 74A330828-2014, -2013	0.050 Sheet	6Al-4V Ti Anl
21	 	Plate 74A331660-2008, -2007 74A331660-2010, -2009	 Die Forging	7049-T73 Al Aly
22		Plate 74A332543-2047	0.040 Sheet	6Al-4V Ti Anl
23		Plate 74A332543-2049	0.063 Sheet	6Al-4V Ti Anl
24		Plate 74A332543-2051	0.063 Sheet	6Al-4V Ti Anl
25		Cover (Door EBA) 74A332558-2015	 Sheet	6Al-4V Ti Anl
26	 	Plate 74A332543-2072, -2071 74A332543-2112, -2111	0.063 Sheet	6Al-4V Ti Anl
27		Plate 74A332543-2002, -2001	0.063 Sheet	6Al-4V Ti Anl
28		Stringer 74A332549-2017, -2018	1MAI00D06-10284 Extr	7075-T76511 Al Aly
29	  	Stringer 74A332550-2023, -2024 74A332550-9005, -9006 74A332550-2051, -2052	1MA160D01-10309 Extr	7075-T76 Al Aly

Figure 1. Material Index (Sheet 13)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
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31		Stringer 74A332550-2017	1MA160D01-10309 Extr	7075-T76 Al Aly
32		Stringer 74A332546-2015, -2016	1MA165D01-10015 Extr	7075-T76 Al Aly
33	<div>62</div> <div>63</div>	Stringer 74A332550-2035 74A332550-2059	1MA160D01-10309 Extr	7075-T76 Al Aly
34		Stringer 74A332550-2033	1MA160D01-10309 Extr	7075-T76 Al Aly
35		Stringer 74A332550-2009, -2010	1MA160D01-10309 Extr	7075-T76 Al Aly
36	<div>38</div> <div>39</div> <div>57</div> <div>52</div>	Stringer 74A332550-2037, -2038 74A332550-2053, -2038 74A332550-2053, -2058 74A332550-2057, -2058	1MA160D01-10309 Extr	7075-T76 Al Aly
37		Stringer 74A332550-2029	1MA160D01-10309 Extr	7075-T76 Al Aly
38		Stringer 74A332550-2003	1MA160D01-10309 Extr	7075-T76 Al Aly
39		Stringer 74A332550-2039	1MA160D01-10309 Extr	7075-T76 Al Aly
40		Support 74A332551-2001	1MA160D01-10198 Extr	7075-T76 Al Aly
41		Plate 74A332542-2005, -2006	0.040 Sheet	7075-T62 Al Aly
42		Support 74A332551-2003	1MA160D01-10198 Extr	7075-T76 Al Aly
43		Stringer 74A332539-2015	1MA180D06-10092 Extr	7075-T76511 Al Aly
44	<div>21</div> <div>22</div>	Stiffener 74A332559-2001 74A332559-2003	0.063 Sheet	7075-T62 Al Aly
45		Filler (Foam) 74A586500-2023	<div>29</div>	<div>30</div>
46	<div>47</div> <div>48</div> <div>58</div> <div>59</div>	Web 74A332538-2035 74A332538-9005 74A332538-2044 74A332538-2052	<div>4</div> Sheet 0.040 Sheet	7075-T6 Al Aly

Figure 1. Material Index (Sheet 14)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
47	<div>51</div> <div>58</div> <div>59</div>	Web 74A332538-2037 74A332538-2043 74A332538-2051	<div>4</div> Sheet 0.040 Sheet	7075-T6 Al Aly
48	<div>51</div>	Web 74A332537-2032	<div>5</div> Sheet	6Al-4V Ti Anl
49	<div>51</div>	Web 74A332537-2031	<div>5</div> Sheet	6Al-4V Ti Anl
50		Web 74A332537-2023	<div>7</div> Sheet	6Al-4V Ti Anl
51	<div>11</div> <div>28</div> <div>34</div> <div>46</div>	Web 74A332534-9001, -9002 74A332534-9017, -9018 74A332534-2013, -2014 74A332534-2015, -2016	<div>6</div> Sheet <div>32</div> Sheet	6Al-4V Ti Anl
52	<div>40</div> <div>41</div>	Cover (Door EBB) 74A332558-2017 74A332558-9005	<div>4</div> Sheet 0.040 Sheet	6Al-4V Ti Anl
53	<div>37</div> <div>26</div> <div>42</div> <div>43</div> <div>54</div> <div>55</div> <div>56</div>	Web 74A332535-2045 74A332535-2047 74A332535-2053 74A332535-2057 74A332535-9019 74A332535-9023 74A332535-2071	<div>7</div> Sheet	6Al-4V Ti Anl
54	<div>36</div> <div>42</div> <div>49</div> <div>50</div> <div>54</div> <div>55</div> <div>60</div> <div>61</div> <div>64</div>	Web 74A332535-2019 74A332535-2055 74A332535-2059 74A332535-2061 74A332535-9021 74A332535-9025 74A332535-2073 74A332535-9027 74A332535-2075	<div>7</div> Sheet	6Al-4V Ti Anl
55	<div>19</div> <div>20</div> <div>35</div> <div>44</div>	Web 74A332537-2033 74A332537-9007 74A332537-2039 74A332537-2045	<div>7</div> Sheet	6Al-4V Ti Anl

Figure 1. Material Index (Sheet 15)

































Idx No.	Eft	Nomenclature and Part No.	Description	Material
56		Bushing NAS75-10-029	-	Steel Aly
57		Support 74A332130-2003, -2004	 Die Forging	7049-T73 Al Aly
58		Bushing, Flanged 4M45-8-47	-	Steel Aly
59		Cover 74A586540-2001	 Plate	7075-T7351 Al Aly
60	 	Web 74A332537-2043 74A332537-2049	 Sheet	7075-T76 Al Aly
61	 	Web 74A332537-2041 74A332537-2047	 Sheet	7075-T76 Al Aly
62		Web 74A332534-2021, -2022	 Sheet	6Al-4V Ti Anl
63 L R	 	Web 74A332534-2019 74A332534-2020	 Sheet	6Al-4V Ti Anl
64 L		Panel 74R330036-2001	0.063 Sheet	6Al-4V Ti Anl
65 L		Panel 74R330036-2003	 Sheet	6Al-4V Ti Anl
LEGEND				
 Land is 0.050 and bay is 0.016.  Land is 0.071 and bay is 0.050.  Land is 0.040 and bay is 0.016.  0.040 stock size machined as shown.  0.050 stock size machined as shown.  0.063 stock size machined as shown.  0.080 stock size machined as shown.  Land is 0.040 and bay is 0.016.  161353 THRU 161362.  161363 THRU 163118.  161353 THRU 161524.  161525 THRU 162477.  Land is 0.125 and bay is 0.075.  Splice area is 0.090, area forward of splice is 0.070.  1.000 stock size machined as shown.  0.875 stock size machined as shown.				

Figure 1. Material Index (Sheet 16)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
17		161353 THRU 161357.		
18		161358 THRU 161723.		
19		161353 THRU 161523.		
20		161524 THRU 161719.		
21		161353 THRU 161527.		
22		161528 AND UP.		
23		161724 THRU 161741.		
24		161358 THRU 161741.		
25		161353 THRU 161523, 161720 THRU 163107.		
26		161728 THRU 161741.		
27		161353 THRU 161716.		
28		161717 THRU 161924.		
29		Bond Foam using EC-847 adhesive - 3M Company - St. Paul, Minn. code ident 04963.		
30		Make from PPP-C-1752, Type I, 2 pounds per cubic foot, Class III.		
31		161742 AND UP.		
32		0.071 stock size machined as shown.		
33		161925 AND UP.		
34		162416.		
35		161720 THRU 161985.		
36		161353 THRU 161741.		
37		161353 THRU 161727.		
38		161353 THRU 161928.		
39		161929 THRU 162472.		
40		161353 THRU 161756, 161927 AND UP.		
41		161757 THRU 161926.		
42		161742 THRU 161937.		
43		161938 THRU 162457.		
44		161986 AND UP.		
45		161353 THRU 161985.		
46		162417 THRU 162477.		
47		161353 THRU 162398.		
48		162399 THRU 162477.		
49		161938 THRU 162444.		
50		162445 THRU 162457.		
51		161353 THRU 162477.		
52		162826 AND UP.		
53		0.090 stock size machined as shown.		
54		162458 THRU 162477.		
55		162826 THRU 162881.		
56		162882 AND UP.		
57		162473 THRU 162477.		
58		162826 THRU 162845.		
59		162846 AND UP.		
60		162882 THRU 162873.		
61		162874 THRU 163118.		
62		161353 THRU 163102.		
63		163103 AND UP.		
64		163119 AND UP.		
65		163108 AND UP.		
66		162826 AND UP BEFORE F/A-18 IAFC 119.		
67		162826 AND UP AFTER F/A-18 IAFC 119.		

Figure 1. Material Index (Sheet 17)

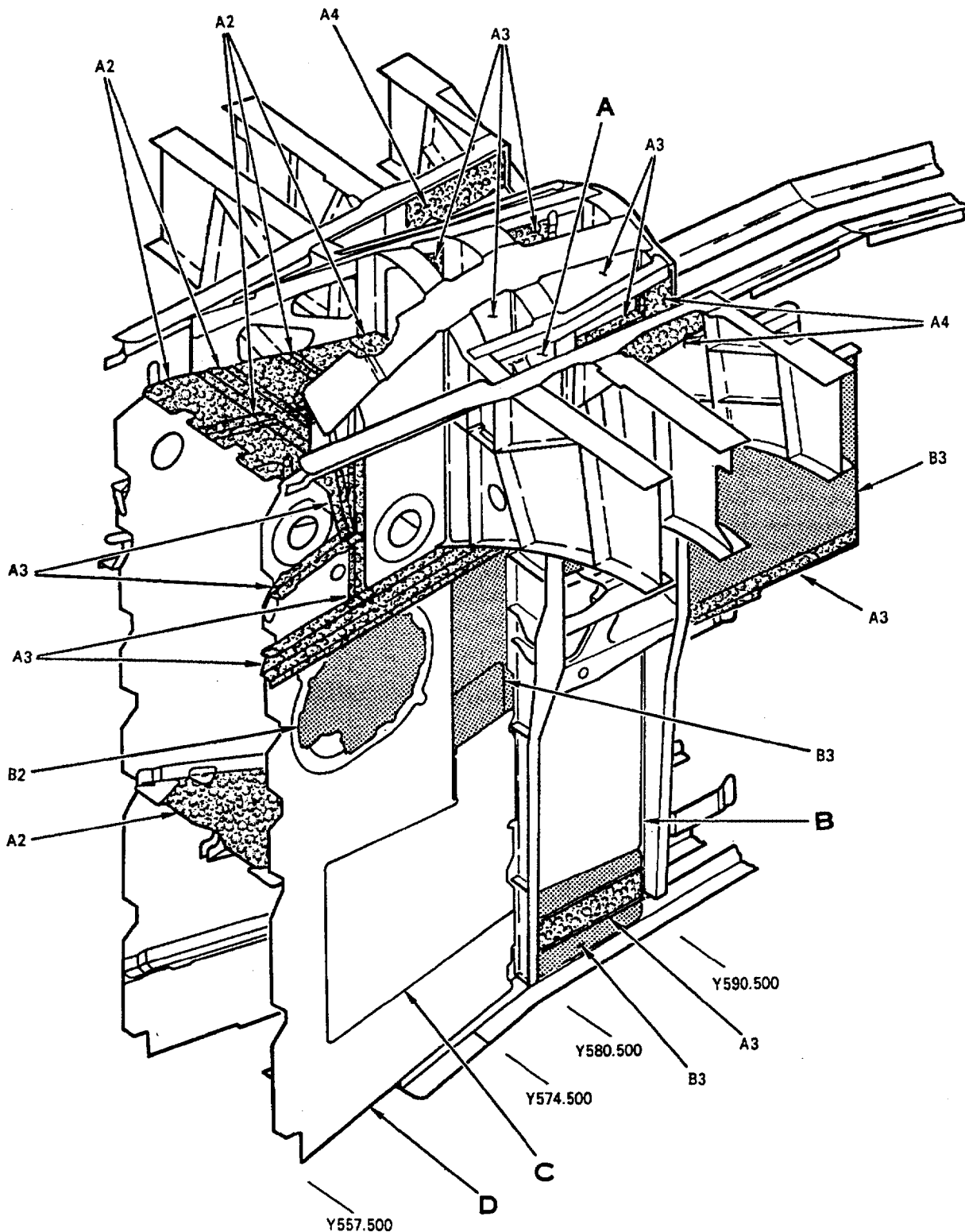


Figure 2. Repair Zones (Sheet 1)

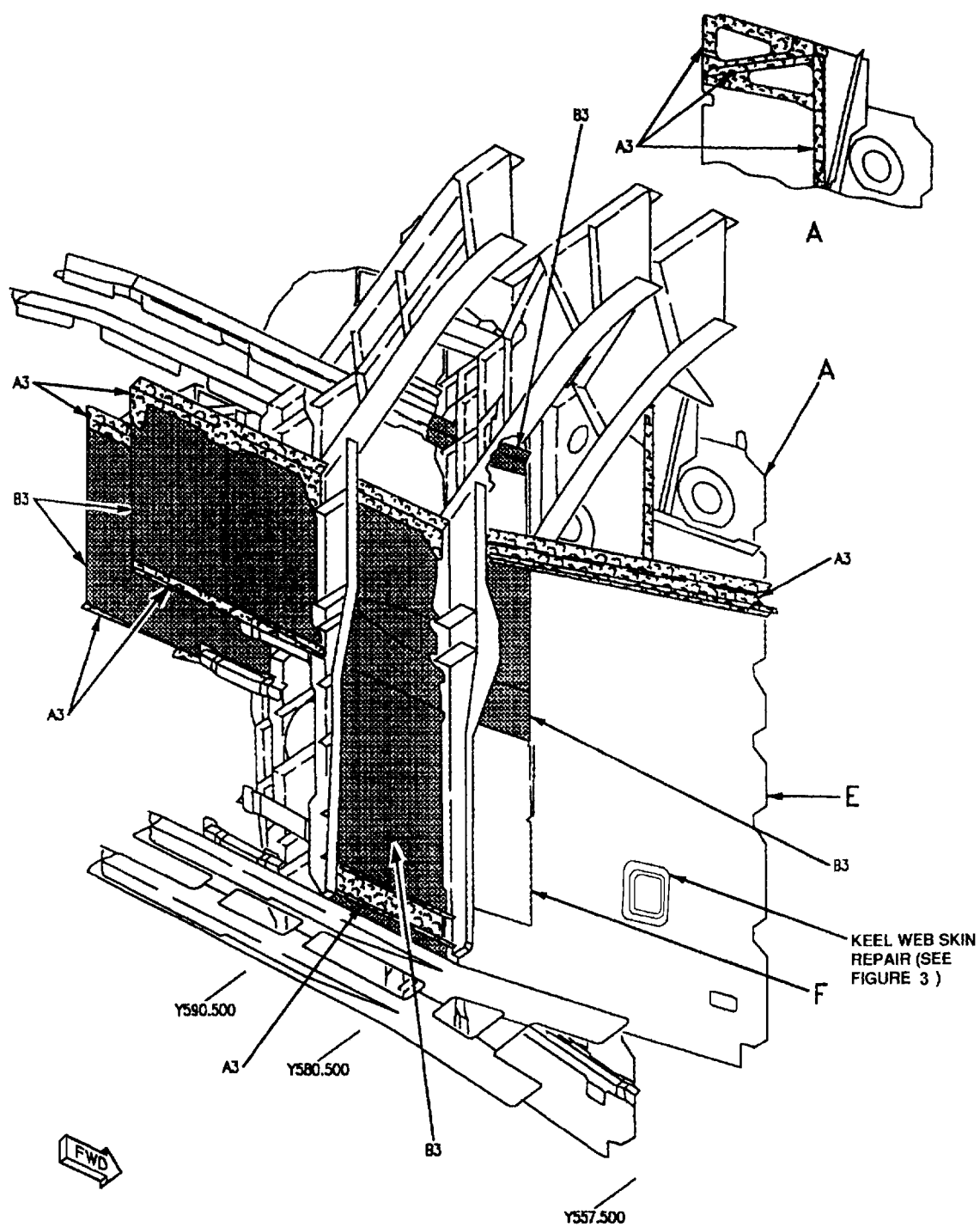


Figure 2. Repair Zones (Sheet 2)

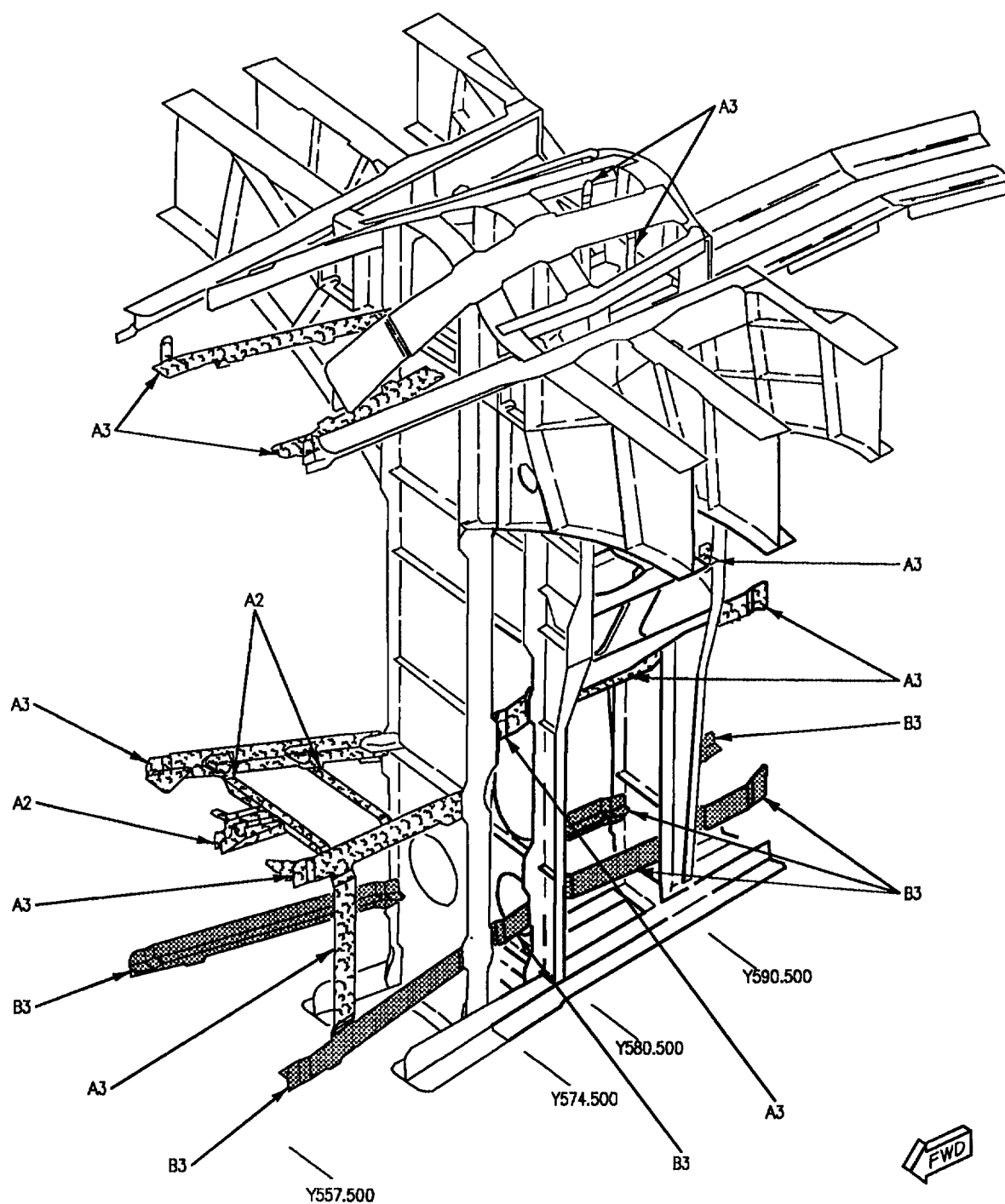


Figure 2. Repair Zones (Sheet 3)

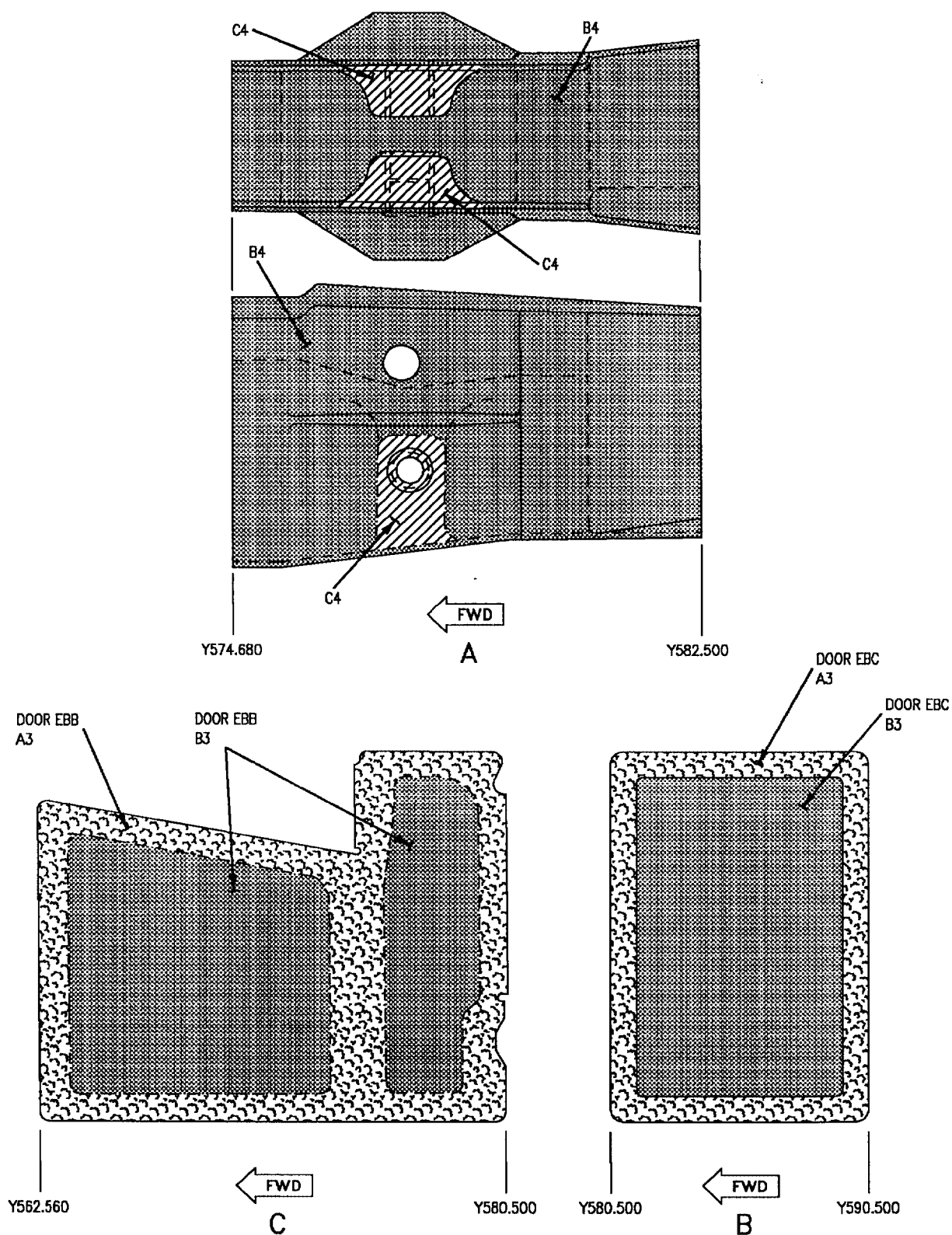


Figure 2. Repair Zones (Sheet 4)

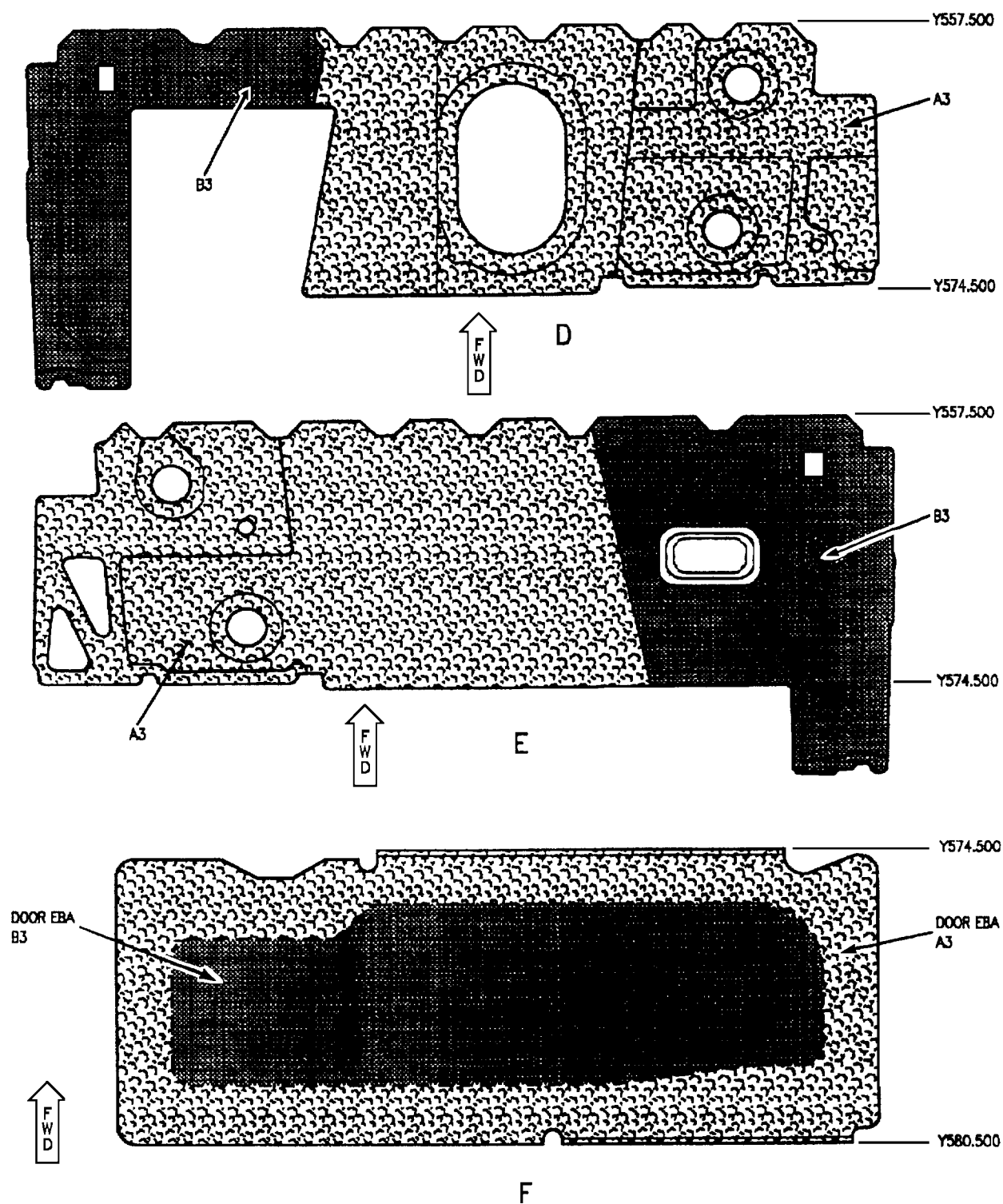
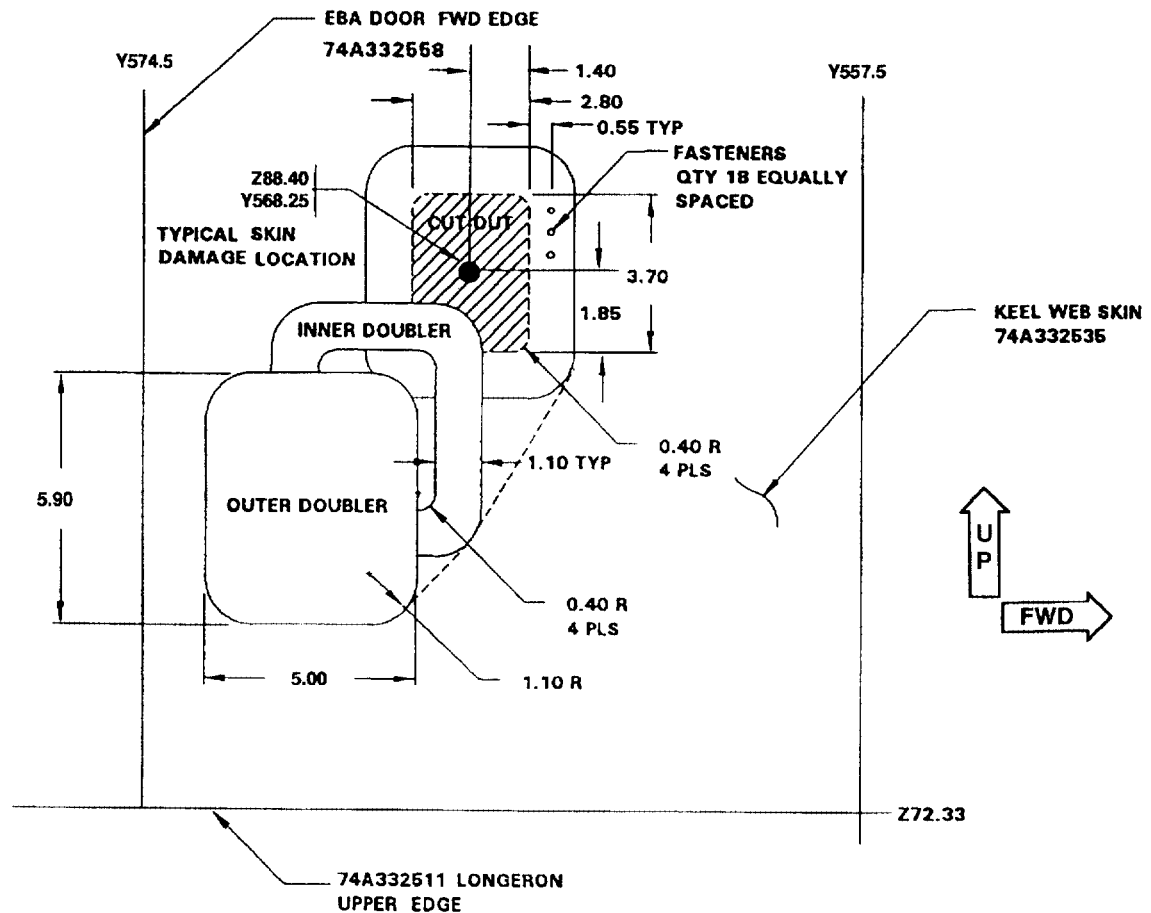


Figure 2. Repair Zones (Sheet 5)



VIEW LOOKING INBOARD RHS

NOTES:

1. DOUBLER MATERIAL 6AL-4V ANL MIL-T-9048, TYPE III, COMP C, INNER 0.100THK, OUTER 0.063 THK.
2. FASTENERS NAS1398C5 INSTALLED WET WITH MIL-S-83430.
3. INSTALL REPAIR DOUBLERS WET WITH MIL-S-83430 SEALANT.
4. CUT OUT THE DAMAGED SKIN. AS SHOWN AND IN THE INNER DOUBLER.
5. BREAK ALL SHARP EDGES 0.010-0.015.
6. CAN BE PROCURED FROM NADEP NORTH ISLAND (91145) P/N 139068-11/-13.

Figure 3. Keel Web Skin Repair

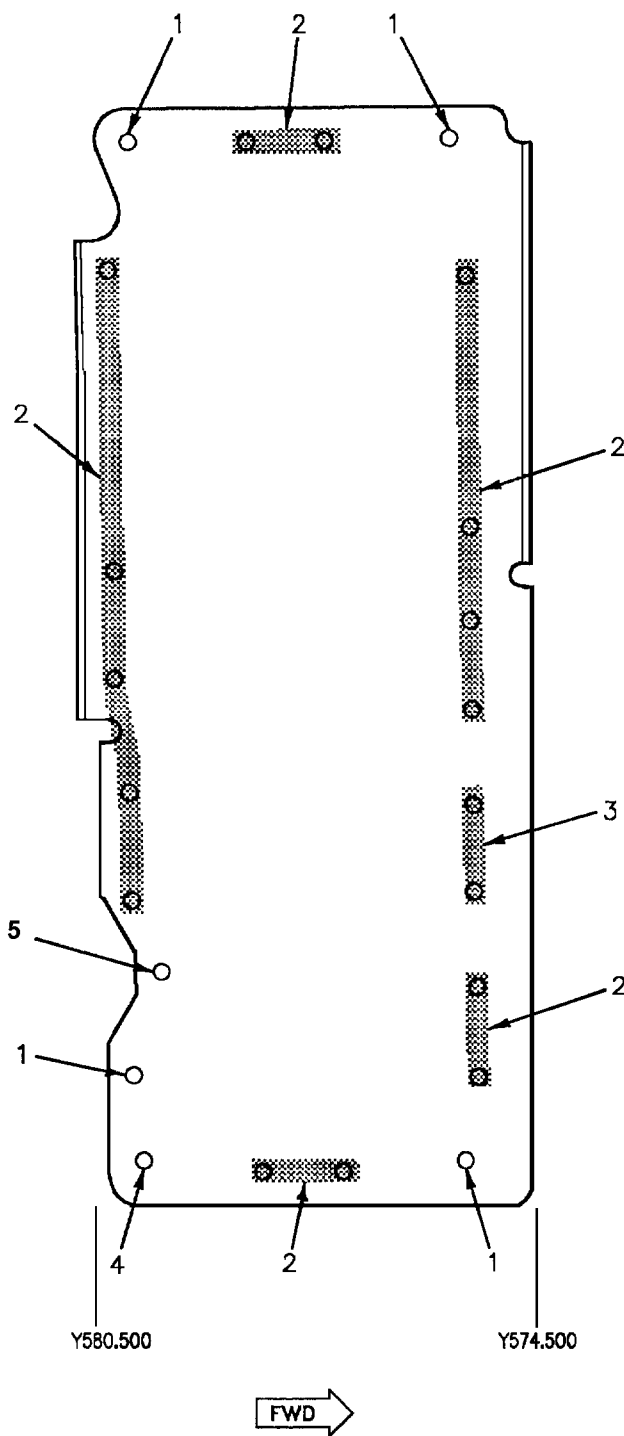


Figure 4. Cover (Door EBA) Replacement (Sheet 1)

























Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F49249E3-3
2			Plate Nut 	F49249E3-4
3	 	 	Plate Nut  Plate Nut 	F49249E3-2 F50403-3-2
4			Plate Nut 	F49249E3-2
5	 	 	Plate Nut  Plate Nut 	F49251E3-4 F49251E3-3
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.191 +0.006 -0.000.</p> <p> Attached with NAS1097AD3 rivets, length determined on installation.</p> <p> 161353 THRU 162396.</p> <p> 162397 AND UP.</p> <p> 161353 THRU 163102.</p> <p> 163103 AND UP.</p>				

Figure 4. Cover (Door EBA) Replacement (Sheet 2)

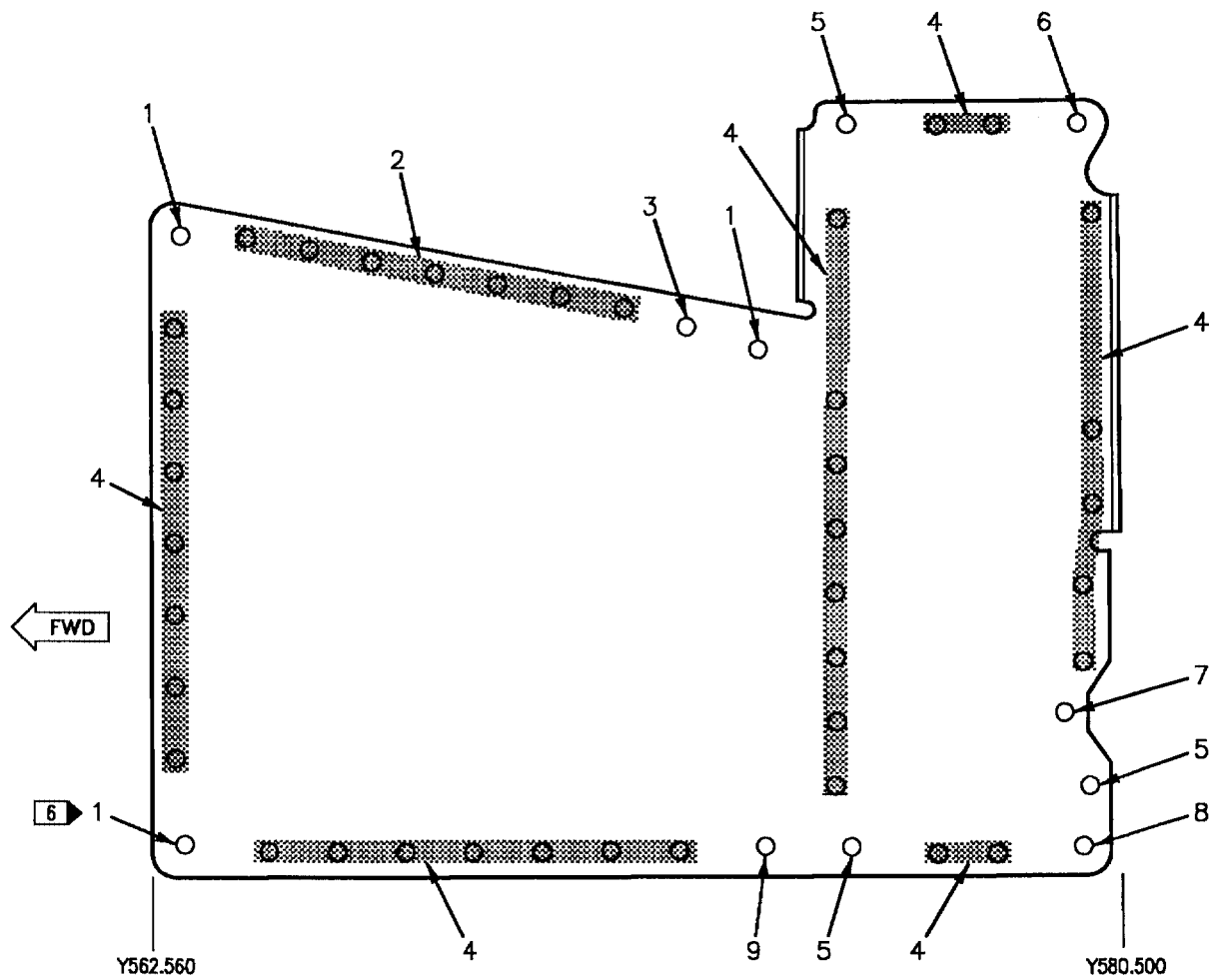


Figure 5. Cover (Door EBB) Replacement (Sheet 1)
































Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F50403-3-4
2		 	Plate Nut  Spacer Shim	F50406-3 NAS463X-D10 NAS463X-D10M
3			Plate Nut  Shim	F50406-3 NAS463X-D10
4			Plate Nut 	F49249E3-4
5			Plate Nut 	F49249E3-3
6			Plate Nut  Spacer	F50403-3-2 4M30C10-032
7	 	 	Plate Nut  Plate Nut 	F49251E3-4 F49251E3-3
8			Plate Nut 	F49249E3-2
9			Plate Nut  Spacer	F50403-3-2  4M30C10-064
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.191 +0.006 -0.000.</p> <p> Two required.</p> <p> Attached with NAS1097AD3 rivets, length determined on installation.</p> <p> 161353 THRU 163102.</p> <p> 163103 AND UP.</p> <p> Replaces F49249E3-4 plate nut.</p> <p> Replaces F49249E3-3 plate nut.</p>				

Figure 5. Cover (Door EBB) Replacement (Sheet 2)

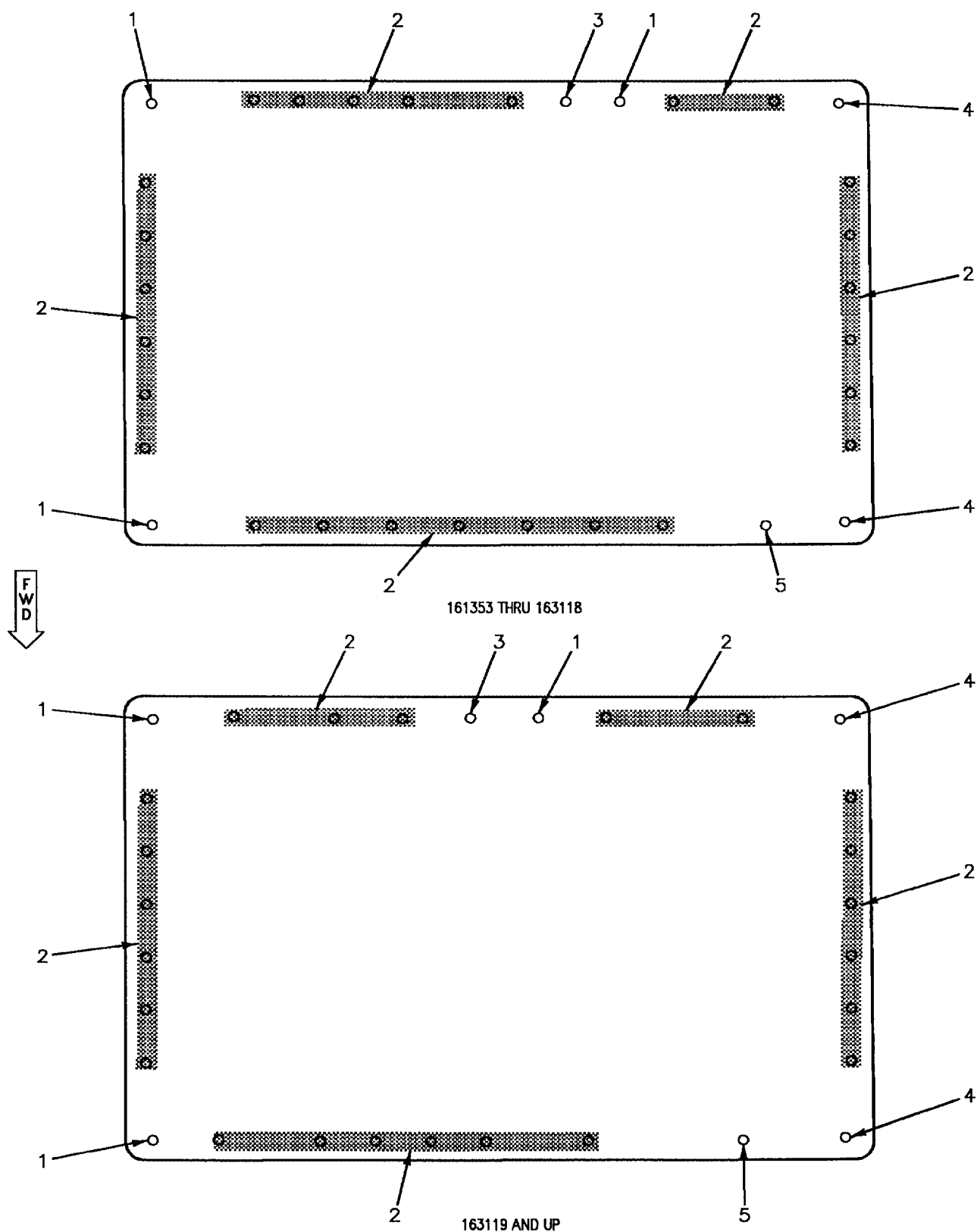


Figure 6. Cover (Door EBC) Replacement (Sheet 1)






















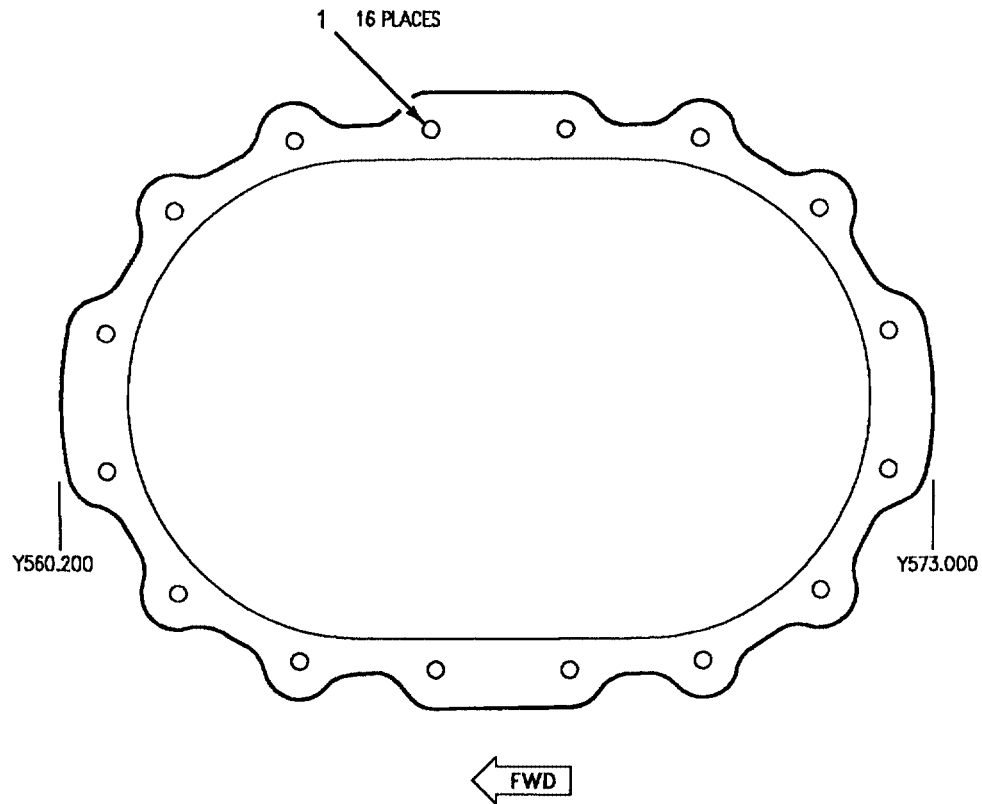
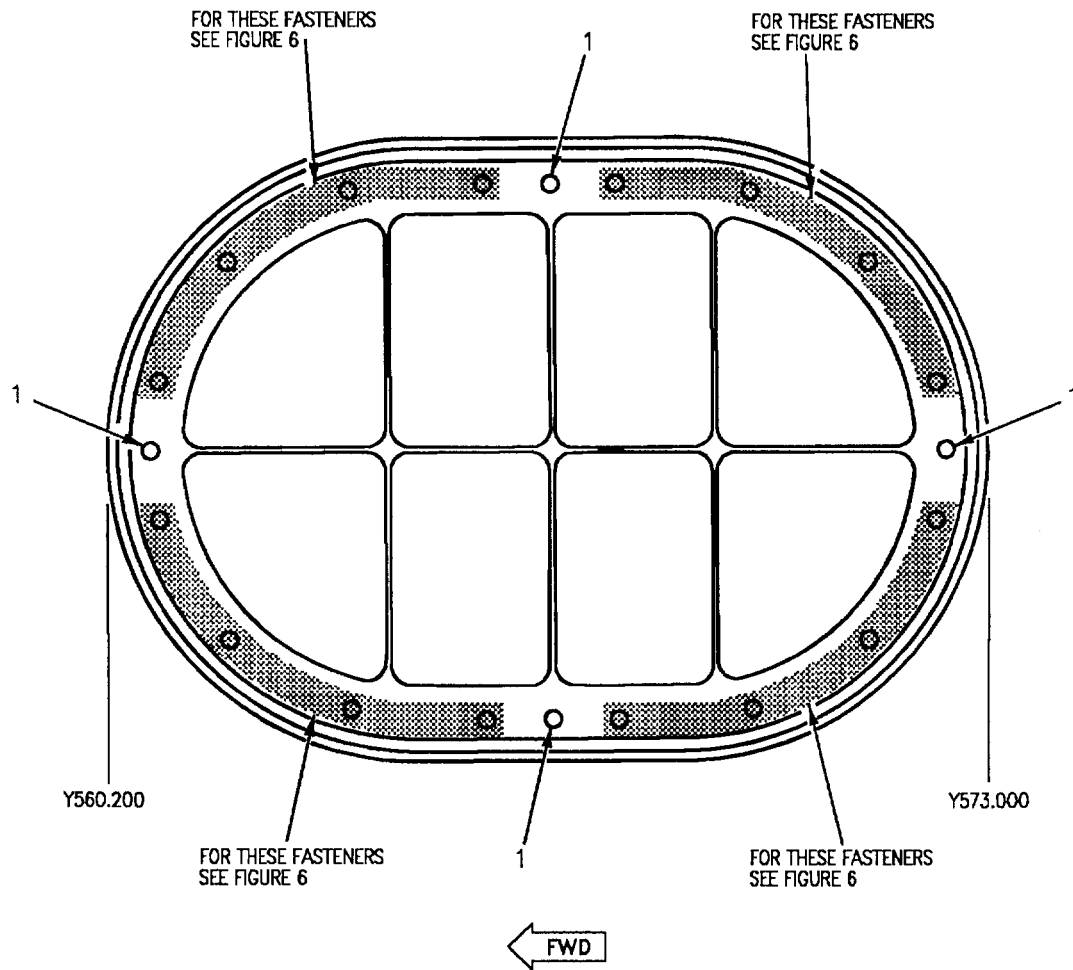
Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F50403-3-4
2			Plate Nut 	F49249E3-4
3	  	 	Plate Nut  Plate Nut  Spacer	F50403-3-4 F50403-3-1 74A332000-2015
4			Plate Nut 	F50403-3-2 
5			Plate Nut 	F49249E3-3
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.191 +0.006 -0.000.</p> <p> 161353 THRU 161704.</p> <p> 161705 AND UP.</p> <p> Attached with NAS1097AD3 rivets, length determined on installation.</p> <p> Replaces F49249E3-2 plate nut.</p>				

Figure 6. Cover (Door EBC) Replacement (Sheet 2)



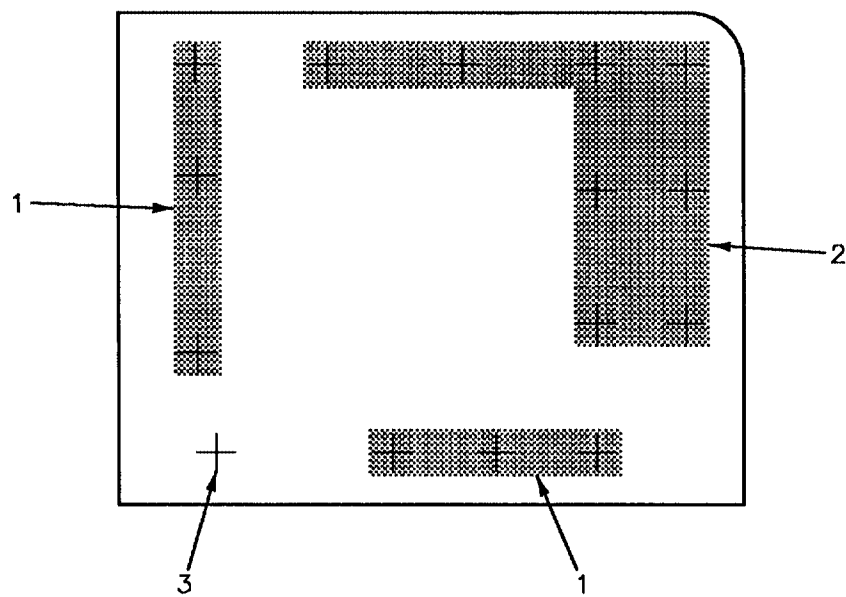
Idx No.	Eft		Nomenclature	Part Number
1			Insert	MS21209F4-15
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.257 +0.006 -0.000.</p>				

Figure 7. Cover 74A332554 Replacement

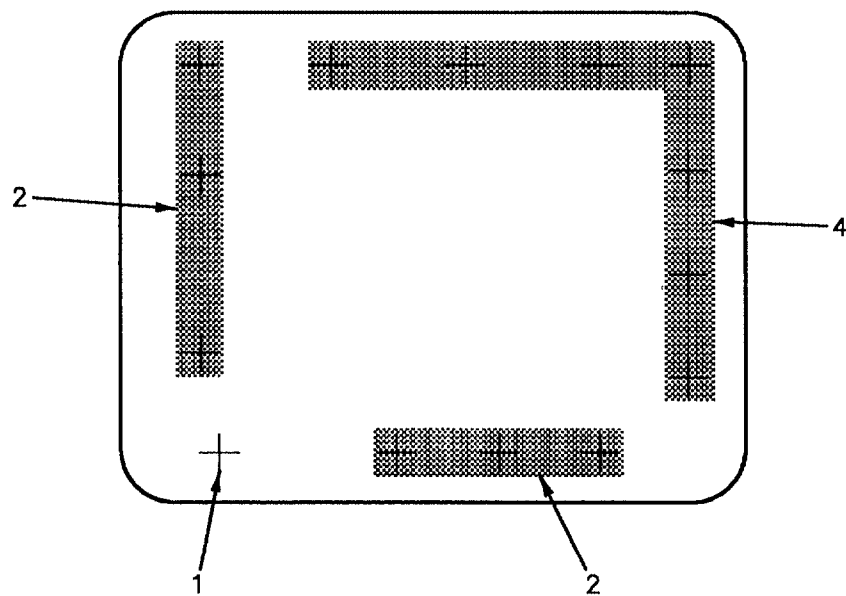


Idx No.	Eft		Nomenclature	Part Number
1			Insert	MS21209F4-15
LEGEND				
Hole diameter is 0.257 +0.006 -0.000.				

Figure 8. Cover 74A586540 Replacement



161353 THRU 162477



162826 AND UP

Figure 9. Web or Plate 74A332534 Replacement (Sheet 1)






Idx No.	Eft		Nomenclature	Part Number
1			Blind Fastener	PLT270-6-3
2			Blind Fastener	PLT270-6-2
3			Blind Fastener	PLT270-6-4
4			Blind Fastener	PLT270-6-1
LEGEND				
 Hole diameter is 0.1990 +0.0025 -0.0000.				

Figure 9. Web or Plate 74A332534 Replacement (Sheet 2)

ORGANIZATIONAL MAINTENANCE**STRUCTURE REPAIR****AFT FUSELAGE SEGMENT (KEEL) Y590.500 TO Y623.000**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Fire and Thermal Barrier Coating	WP009 00
Form in Place Sealing	WP010 00
Aft Fuselage Finish System and Markings	WP036 00
Environmental Control Systems	A1-F18AC-410-300
Bleed Air System	WP007 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Fuselage Segment - Ctr, Aft Sect Y557.5-Y657.35 Assy of	FIG 008 00
Structure Repair, General Information	A1-F18AC-SRM-200
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Introduction	WP002 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Area	WP031 00
Titanium Sheet, Free of Structure and Land Area	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repairs	WP034 00
Titanium Sheet Edge Repairs	WP035 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Repairable Damage	2
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Permanent Repairs	3
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Edge	4

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Cover (Door EBE)	5
Cover (Door EBF)	5
Cover (Door EBG)	5

Record of Applicable Technical Directives

None

Support Equipment Required

None

Materials Required

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLECTIBLE DAMAGE.** Negligible damage is that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in area free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00). For firewall sealant, and fire and thermal barrier coating see WP023 00. Preparation and application of firewall sealant (A1-F18AC-SRM-200, WP011 00). Preparation and application of fire and thermal barrier coating (A1-F18AC-SRM-500, WP009 00).

7. PERMANENT REPAIRS.

8. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet or titanium sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A2 and A3, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Stop drill ends of crack in repair zone A2 or rout out crack in repair zone A3.

(2) In repair zones A2 and A3, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A2 and A3, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A2 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair cracks to titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zones A2 and A3, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A2 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A2 and A3, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A2 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; instal flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair holes to titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zones A2 and A3, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) or in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. **Dents.**

a. In repair zones A2 and A3, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A2 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A2 and A3, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A2 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair dents to titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. REPLACEMENT.

14. **COVER (DOOR EBD).** See figure 3 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 008 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

15. **COVER (DOOR EBE).** See figure 4 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 008 00 and A1-F18AC-410-300, WP007 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

16. **COVER (DOOR EBF).** See figure 5 for attaching hardware. For fasteners (A1-F18AC-410-300, WP007 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

17. **COVER (DOOR EBG).** See figure 6 for attaching hardware. For fasteners (A1-F18AC-410-300, WP007 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

Table 1. Negligible Damage Limits










Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (1)	Web Zone A3 Zone A3	0.032 0.020	0.002 0.001	0.002 0.001	100% 100%	 0.010
Fig 1 (2)	Web Zone A3 Zone A3	0.040 0.030	0.002 0.001	0.002 0.001	100% 100%	 0.015
Fig 1 (3)	Cover Zone A3 Zone A3	0.050 0.016	0.002 0.001	0.002 0.001	100% 100%	 0.008
Fig 1 (4)	Plate Zone A3	0.063	0.002	0.002	100%	 0.001
Fig 1 (5)	Web Zone A3 Zone A3	0.050 0.035	0.002 0.002	0.002 0.002	100% 100%	0.025 0.018
Fig 1 (6)	Plate Zone A3	0.050	0.002	0.002	100%	 0.001
Fig 1 (7)	Panel Zone A3 Zone A3	0.050 0.020	0.002 0.001	0.002 0.001	100% 100%	 0.010
Fig 1 (8)	Plate Zone A3 Zone A3	0.100 0.071	0.002 0.002	0.002 0.002	100% 100%	 0.001
Fig 1 (9)	Web Zone A3 Zone B3	0.032 0.020	0.002 0.0006	0.002 0.0006	100% 100%	 0.010
Fig 1 (10)	Plate Zone A3	0.050	0.002	0.002	100%	 0.001

Table 1. Negligible Damage Limits (Continued)





















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (11)	Plate Zone A3	0.063	0.002	0.002	100%	
Fig 1 (12)	Support Zone A3	0.050	0.002	0.002	100%	
Fig 1 (13)	Stringer Zone A3 Zone A3	0.070	0.002	0.002	100%	
		0.063	0.002	0.002	100%	
Fig 1 (14)	Stringer Zone A3	0.040	0.002	0.002	100%	
Fig 1 (15)	Stringer Zone B3	0.063	0.0006	0.0006	100%	
Fig 1 (16)	Stringer Zone B3	0.063	0.0006	0.0006	100%	
Fig 1 (17)	Stringer Zone B3	0.063	0.0006	0.0006	100%	
Fig 1 (18)	Stringer Zone B3	0.063	0.0006	0.0006	100%	
Fig 1 (19)	Stringer Zone B3	0.063	0.0006	0.0006	100%	
Fig 1 (20)	Stringer Zone A3 Zone A3	0.070	0.002	0.002	100%	
		0.063	0.002	0.002	100%	
Fig 1 (21)	Stringer Zone A3 Zone A3	0.070	0.002	0.002	100%	
		0.063	0.002	0.002	100%	
Fig 1 (22)	Stringer Zone A3 Zone A3	0.070	0.002	0.002	100%	
		0.063	0.002	0.002	100%	
Fig 1 (23)	Web Zone A3 Zone A3 Zone A3	0.040	0.002	0.002	100%	
		0.032	0.002	0.002	100%	
		0.020	0.001	0.001	100%	0.010
Fig 1 (24)	Web Zone B3 Zone B3 Zone B3	0.071	0.0006	0.0006	100%	
		0.020	0.0006	0.0006	100%	0.010
		0.050	0.0006	0.0006	100%	0.025
Fig 1 (25)	Plate Zone A2	0.071	0.002	0.002	15%	

Table 1. Negligible Damage Limits (Continued)







Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (26)	Doubler Zone A2	0.050	0.002	0.002	20%	
Fig 1 (27)	Panel Zone A2 Zone A2	0.050	0.002	0.002	10%	 0.016
		0.032	0.002	0.002	30%	
Fig 1 (28)	Gusset Zone A2	0.050	0.002	0.002	20%	0.025
Fig 1 (29)	Gusset Zone A2	0.050	0.002	0.002	20%	0.025
Fig 1 (30)	Panel Zone A2	0.050	0.002	0.002	20%	
NOTES  0.032 dents to free standing leg only.  0.020 dents to free standing leg only.  None allowed.						

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (1)	Web Zone A3 Zone A3	0.032	0.045	0.006	0.006	20%	0.006	20%
		0.020	NA	0.004	0.004	20%	0.004	20%
Fig 1 (2)	Web Zone A3 Zone A3	0.040	0.045	0.008	0.008	20%	0.008	20%
		0.030	NA	0.006	0.006	20%	0.006	20%
Fig 1 (3)	Cover Zone A3 Zone A3	0.050	0.057	0.010	0.010	10%	0.010	10%
		0.016	NA	0.003	0.003	50%	0.003	50%
Fig 1 (4)	Plate Zone A3	0.063	0.045	0.013	0.013	10%	0.013	10%
Fig 1 (5)	Web Zone A3 Zone A3	0.050	0.045	0.010	0.010	10%	0.010	10%
		0.035	0.045	0.007	0.007	10%	0.007	10%
Fig 1 (6)	Plate Zone A3	0.050	0.050	0.010	0.010	20%	0.010	20%
Fig 1 (7)	Panel Zone A3 Zone A3	0.050	0.057	0.010	0.010	10%	0.010	10%
		0.020	NA	0.004	0.004	30%	0.004	30%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (8)	Plate	0.100	0.057	0.020	0.020	10%	0.020	10%
	Zone A3 Zone A3	0.071	0.045	0.014	0.014	10%	0.014	10%
Fig 1 (9)	Web	0.032	0.045	0.006	0.006	10%	0.006	10%
	Zone A3 Zone B3	0.020	NA	0.004	0.004	30%	0.004	30%
Fig 1 (10)	Plate Zone A3	0.050	0.050	0.010	0.010	20%	0.010	20%
Fig 1 (11)	Plate Zone A3	0.063	0.045	0.013	0.013	10%	0.013	10%
Fig 1 (12)	Support Zone A3	0.050	0.045	0.010	0.010	10%	0.010	10%
Fig 1 (13)	Stringer	0.070	0.045	0.013	0.013	10%	0.013	10%
	Zone A3 Zone A3	0.063	0.050	0.013	0.013	10%	0.013	10%
Fig 1 (14)	Stringer Zone A3	0.040	0.045	0.008	0.008	10%	0.008	10%
Fig 1 (15)	Stringer Zone B3	0.063	0.0006	0.013	0.013	10%	0.013	10%
Fig 1 (16)	Stringer Zone B3	0.063	0.0006	0.013	0.013	10%	0.013	10%
Fig 1 (17)	Stringer Zone B3	0.063	0.0006	0.013	0.013	10%	0.013	10%
Fig 1 (18)	Stringer Zone B3	0.063	0.0006	0.013	0.013	10%	0.013	10%
Fig 1 (19)	Stringer Zone B3	0.063	0.0006	0.013	0.013	10%	0.013	10%
Fig 1 (20)	Stringer	0.070	0.045	0.013	0.013	10%	0.013	10%
	Zone A3 Zone A3	0.063	0.050	0.013	0.013	10%	0.013	10%
Fig 1 (21)	Stringer	0.070	0.045	0.013	0.013	10%	0.013	10%
	Zone A3 Zone A3	0.063	0.050	0.013	0.013	10%	0.013	10%
Fig 1 (22)	Stringer	0.070	0.045	0.013	0.013	10%	0.013	10%
	Zone A3 Zone A3	0.063	0.050	0.013	0.013	10%	0.013	10%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (23)	Web	0.040	0.045	0.008	0.008	10%	0.008	10%
	Zone A3	0.032	0.045	0.006	0.006	10%	0.006	10%
	Zone A3	0.020	NA	0.004	0.004	20%	0.004	20%
Fig 1 (24)	Web	0.071	0.0006	0.014	0.014	10%	0.014	10%
	Zone B3	0.020	NA	0.004	0.004	20%	0.004	20%
	Zone B3	0.050	NA	0.010	0.010	25%	0.010	25%
Fig 1 (25)	Plate Zone A2	0.071	0.045	0.014	0.014	15%	0.014	15%
Fig 1 (26)	Doubler Zone A2	0.050	0.038	0.010	0.010	20%	0.010	20%
Fig 1 (27)	Panel	0.050	0.045	0.010	0.010	10%	0.010	10%
	Zone A2	0.032	NA	0.006	0.006	30%	0.006	30%
Fig 1 (28)	Gusset Zone A2	0.050	0.010	0.010	0.010	20%	0.010	20%
Fig 1 (29)	Gusset Zone A2	0.050	0.010	0.010	0.010	20%	0.010	20%
Fig 1 (30)	Panel Zone A2	0.050	0.010	0.010	0.010	20%	0.010	20%

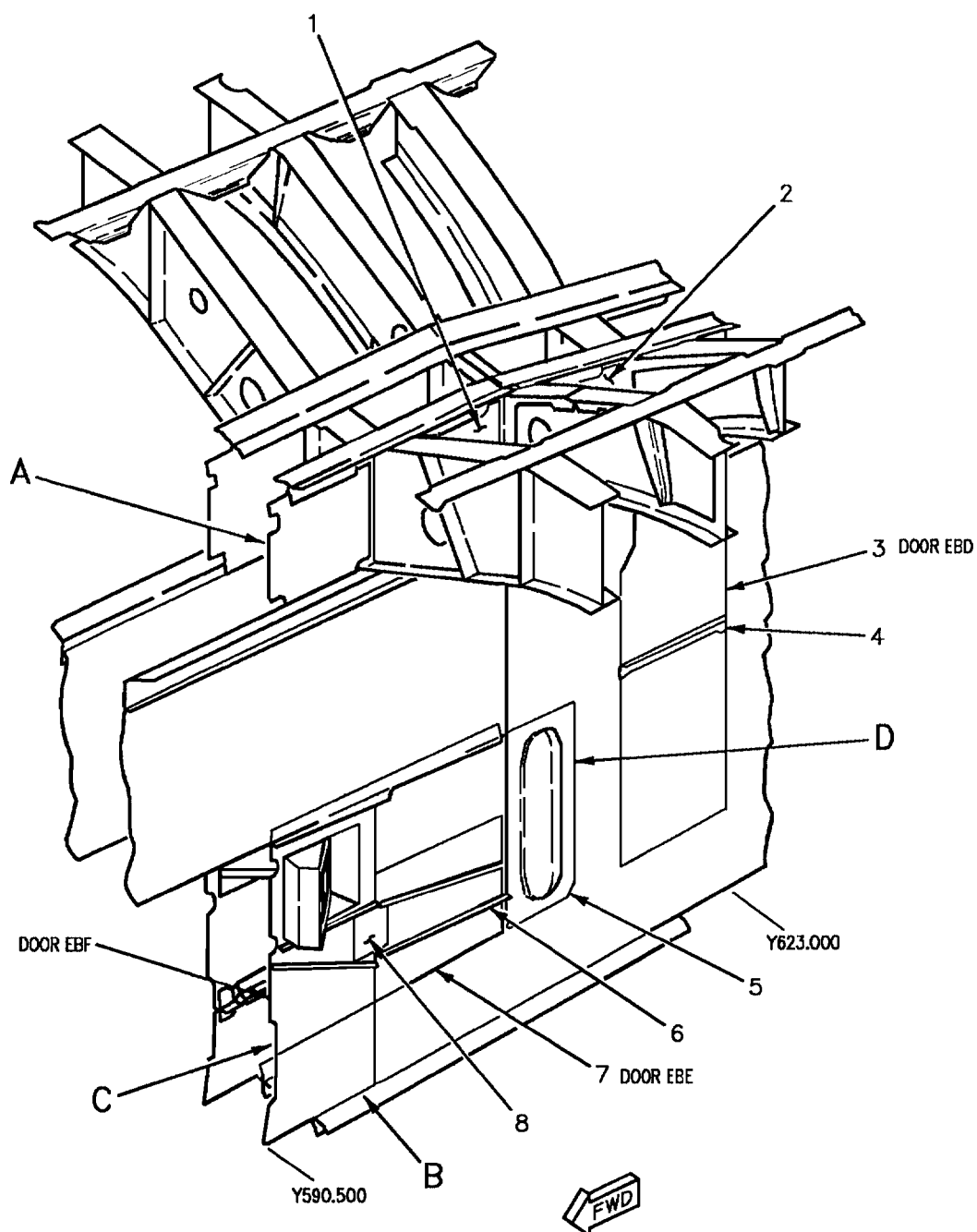


Figure 1. Material Index (Sheet 1)

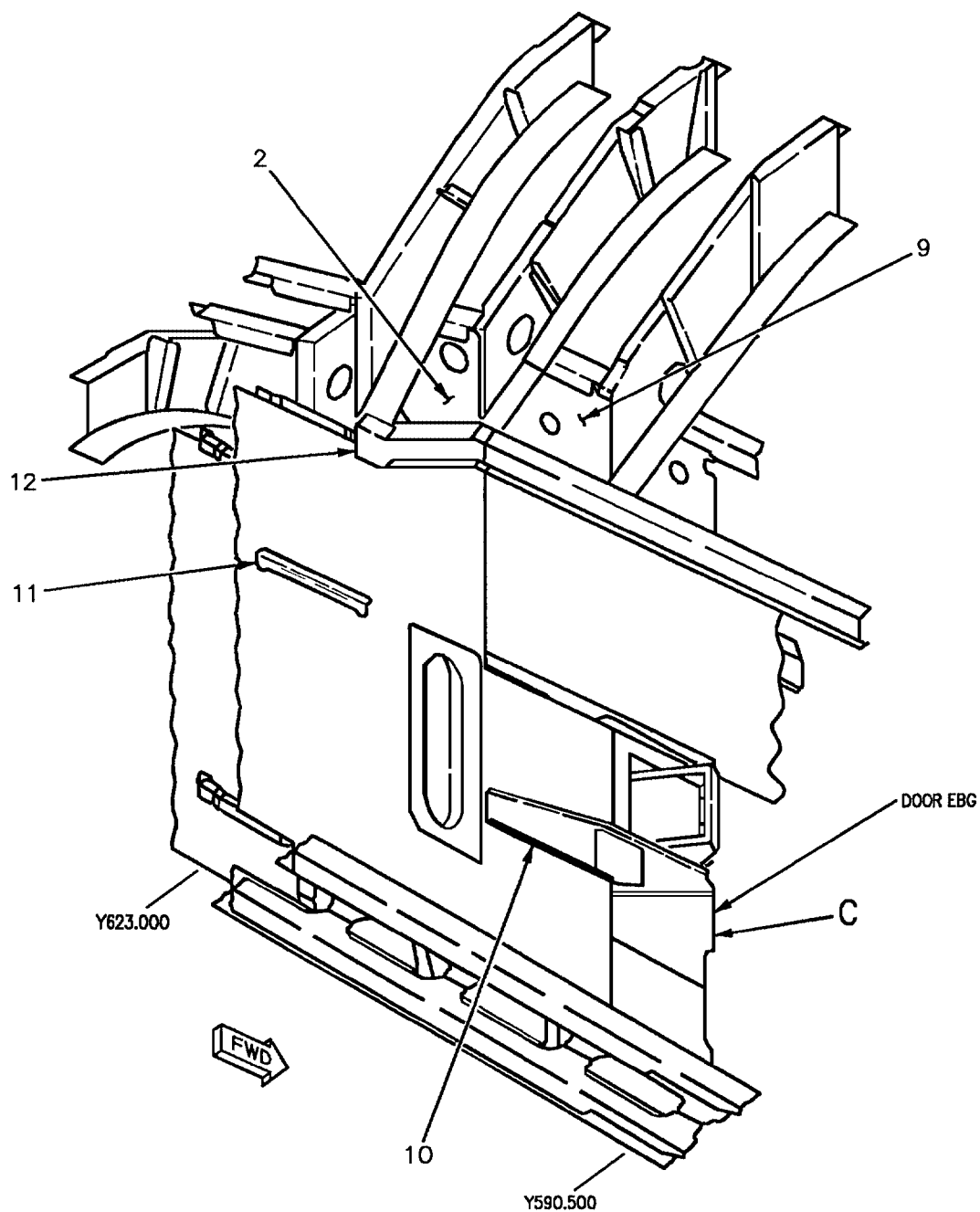


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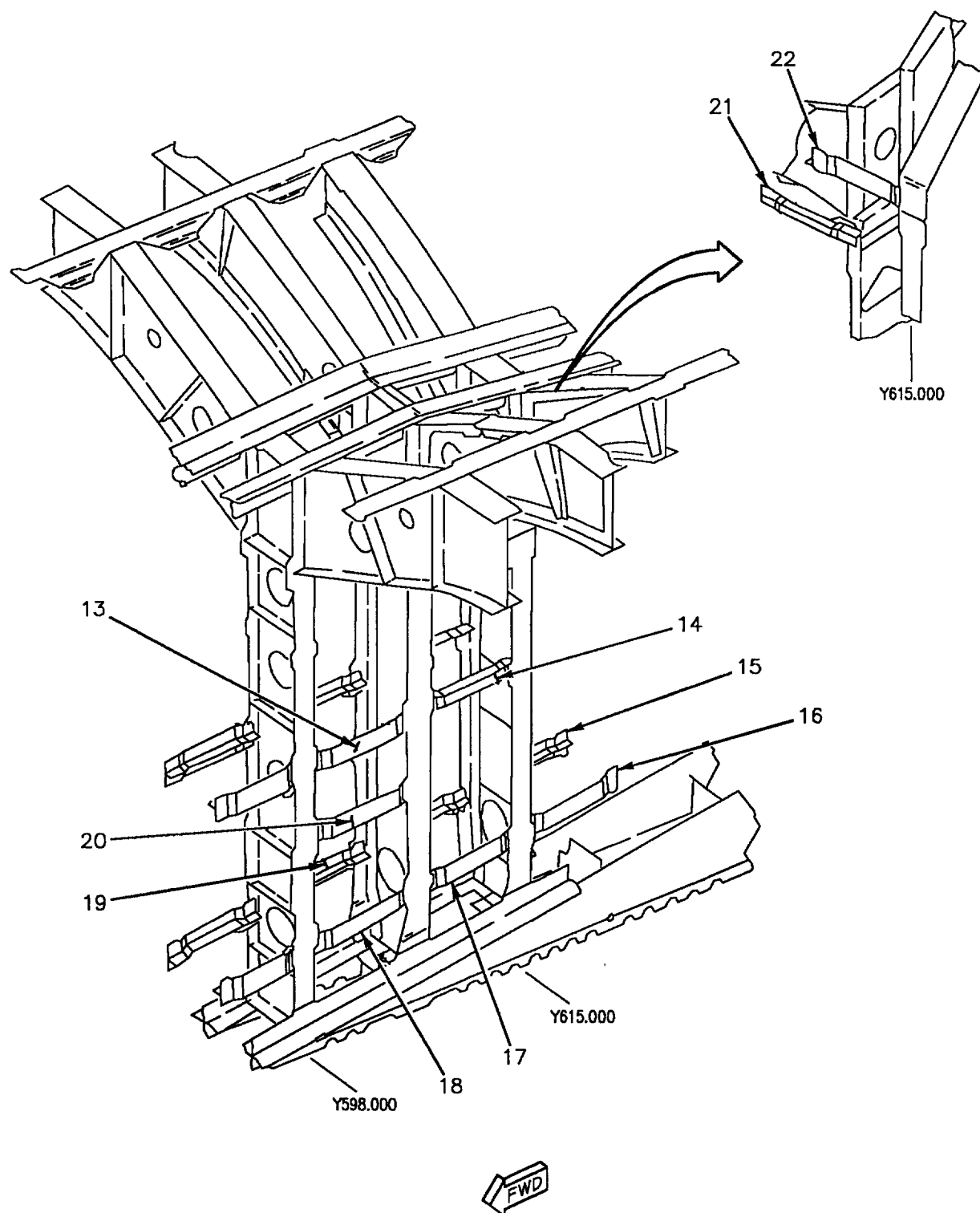


Figure 1. Material Index (Sheet 3)

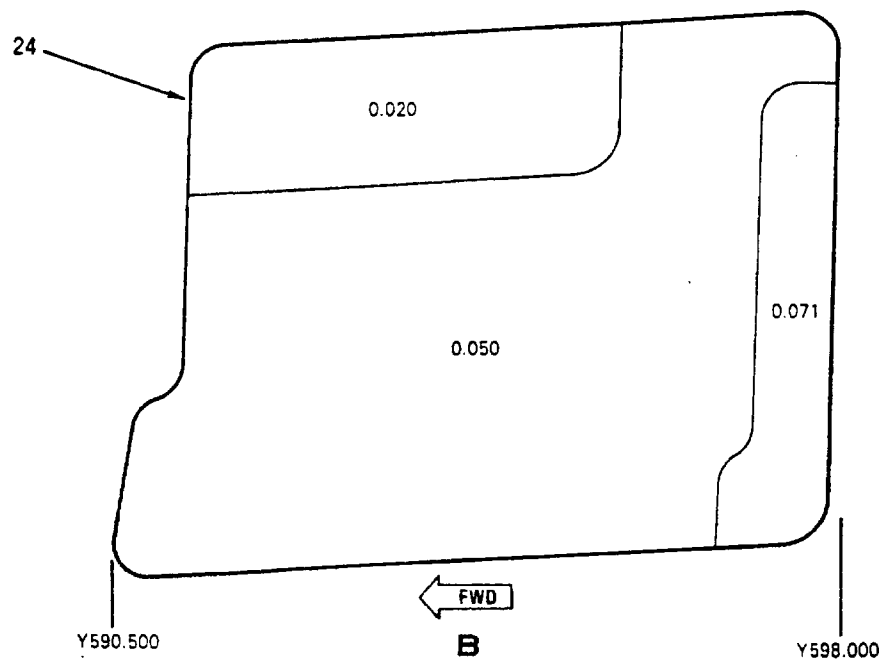
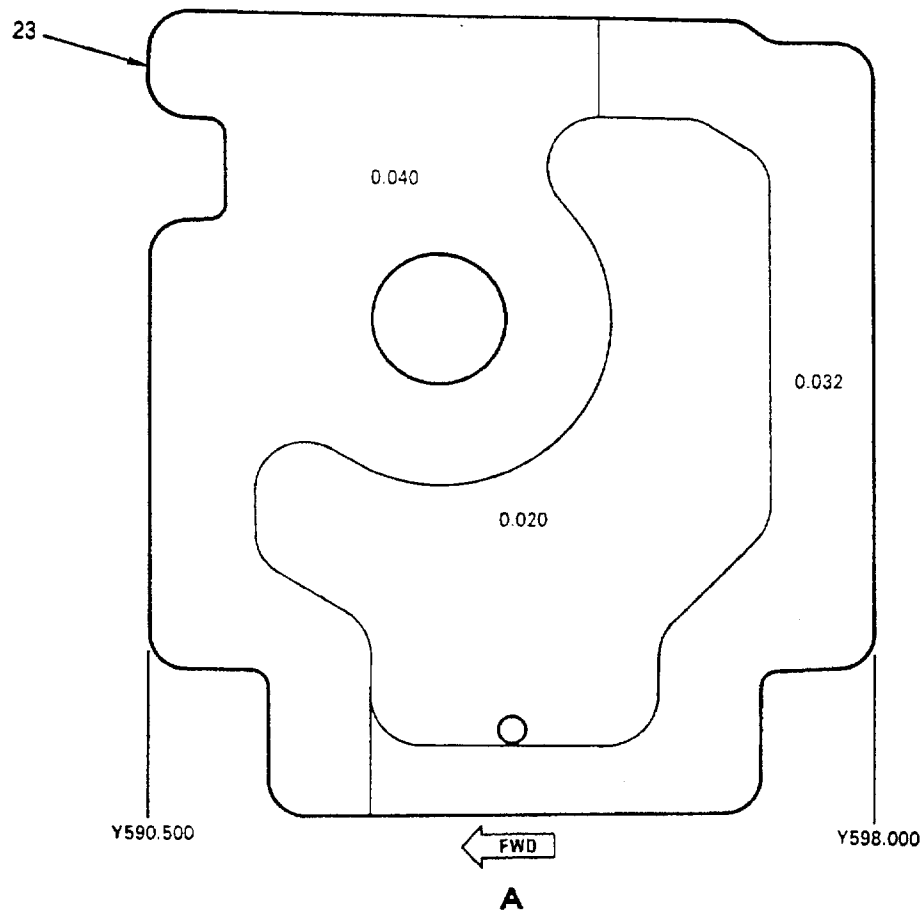


Figure 1. Material Index (Sheet 4)

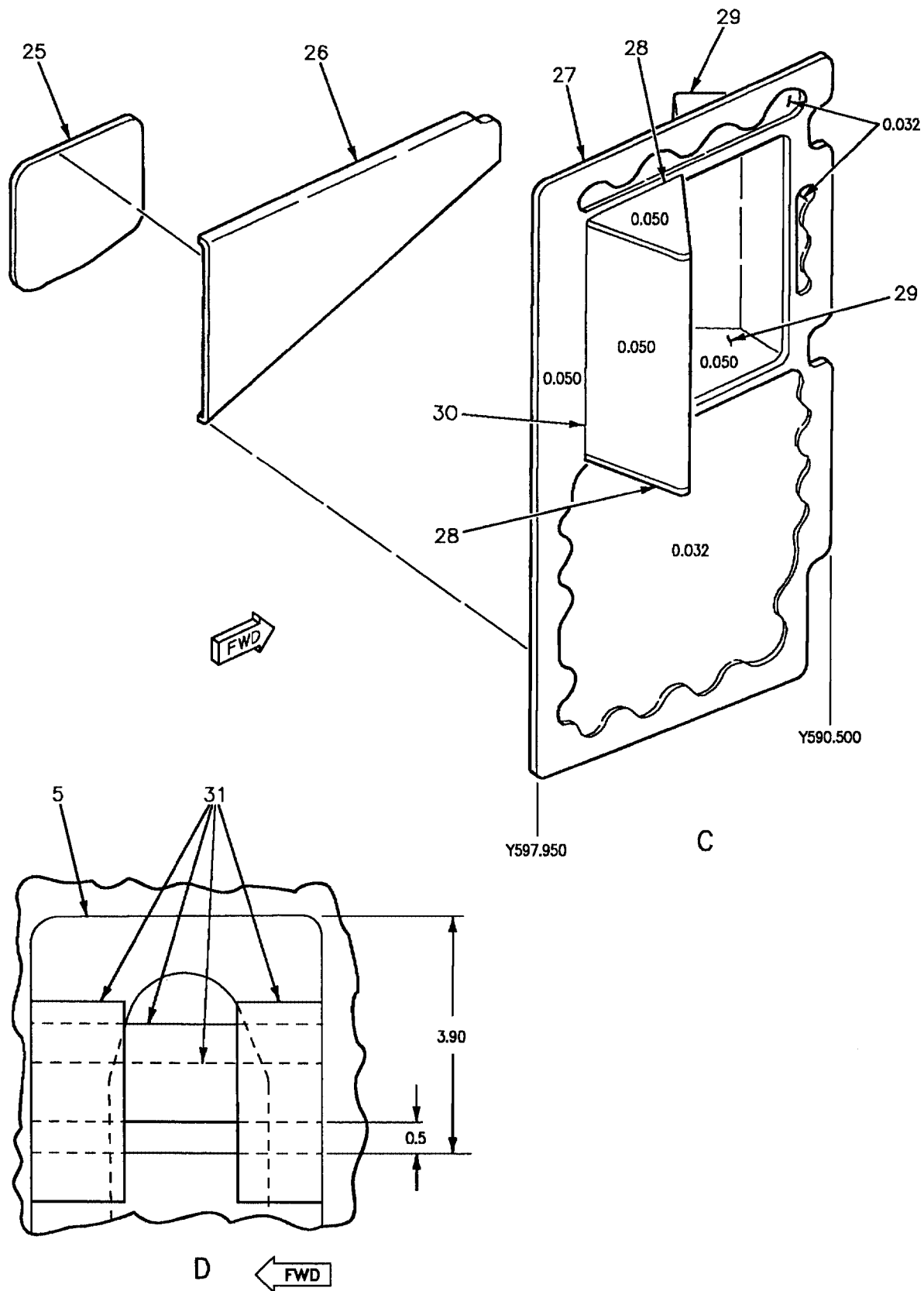


Figure 1. Material Index (Sheet 5)


















Idx No.	Eft	Nomenclature and Part No.	Description	Material
1	 	Web 74A332538-2031 74A332538-2047	 Sheet	7075-T6 Al Aly
2		Web 74A332538-2039	 Sheet	7075-T6 Al Aly
3		Cover (Door EBD) 74A332553-2003	 Sheet	6Al-4V Ti Anl
4		Plate 74A332543-2029	0.063 Sheet	6Al-4V Ti Anl
5		Web 74A332547-2003, -2004	 Sheet	6Al-4V Ti Anl
6		Plate 74A332543-2037	0.050 Sheet	6Al-4V Ti Anl
7	 	Panel (Door EBE) 74A332557-2001 74A332557-2003	 Sheet	6Al-4V Ti Anl
8		Plate 74A332543-2063	 Sheet	6Al-4V Ti Anl
9	 	Web 74A332538-2033 74A332538-2049	 Sheet	7075-T6 Al Aly
10		Plate 74A332543-2038	0.050 Sheet	6Al-4V Ti Anl
11		Plate 74A332543-2053	0.063 Sheet	6Al-4V Ti Anl
12		Support 74A330827-2002, -2001	0.050 Sheet	6Al-4V Ti Anl
13	 	Stringer 74A332550-2043, -2044 74A332550-2047, -2048	1MA160D01-10309 Extr	7075-T76 Al Aly
14	 	Stringer 74A332549-2001, -2002 74A332549-2023, -2024	1MA100D06-10265 Extr	7075-T76511 Al Aly
15		Stringer 74A332546-2007	1MA165D01-10015 Extr	7075-T76 Al Aly
16		Stringer 74A332546-2005	1MA165D01-10015 Extr	7075-T76 Al Aly

Figure 1. Material Index (Sheet 6)





















Idx No.	Eft	Nomenclature and Part No.	Description	Material
17		Stringer 74A332546-2009, -2010	1MA165D01-1001 Extr	7075-T76 Al Aly
18		Stringer 74A332546-2011	1MA165D01-10015 Extr	7075-T76 Al Aly
19		Stringer 74A332546-2013	1MA165D01-10015 Extr	7075-T76 Al Aly
20		Stringer 74A332550-2025	1MA160D01-10309 Extr	7075-T76 Al Aly
21	 	Stringer 74A332550-2045 74A332550-2055	1MA160D01-10309 Extr	7075-T76 Al Aly
22	 	Stringer 74A332550-9001 74A332550-2049	1MA160D01-10309 Extr	7075-T76 Al Aly
23	 	Web 74A332538-2029, -2030 74A332538-2045, -2046	 Sheet	7075-T6 Al Aly
24	 	Web 74A332548-2005, -2006 74A332548-9003, -9004	 Sheet	6Al-4V Ti Anl
25		Plate  74A501302-2013	0.071 Sheet	6Al-4V Ti Anl
26		Doubler 74A501302-2003, -2004	0.050 Sheet	6Al-4V Ti Anl
27		Panel  74A501302-2001, -2002	  Sheet	6Al-4V Ti Anl
28		Gusset  74A501302-2007	0.050 Sheet	6Al-4V Ti Anl
29		Gusset  74A501302-2009	0.050 Sheet	6Al-4V Ti Anl
30		Panel 74A501302-2005	0.050 Sheet	6Al-4V Ti Anl
31		Tape 8544-6.0000 	6.0 x 15.0	Polyurethane
<p style="text-align: center;">LEGEND</p> <p> Land is 0.032 and bay is 0.020.</p> <p> Land is 0.040 and bay is 0.030.</p> <p> Land is 0.050 and bay is 0.016.</p>				

Figure 1. Material Index (Sheet 7)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
4			Land is 0.050 and bay is 0.020.	
5			Stock is 0.100, milled area is 0.071.	
6			161353 AND 161354.	
7			161355 AND UP.	
8			0.040 stock size machined as shown.	
9			0.071 stock size machined as shown.	
10			On door EBG only.	
11			0.050 stock size machined as shown.	
12			Part of 74A501302-2011, -2012 weldment.	
13			Lands are 0.050 at upper and lower edges and 0.035 at forward and aft edges. The upper and lower bays are 0.050, and center bay is 0.035.	
14			Door EBF and EBG respectively.	
15			161353 THRU 161361.	
16			161362 AND UP.	
17			161353 THRU 162417.	
18			162418 AND UP.	
19			161353 THRU 162477.	
20			162826 AND UP.	
21			161353 THRU 162852.	
22			162853 AND UP.	
23			161353 THRU 162881.	
24			162882 AND UP.	
25			Apply over finish paint.	

Figure 1. Material Index (Sheet 8)

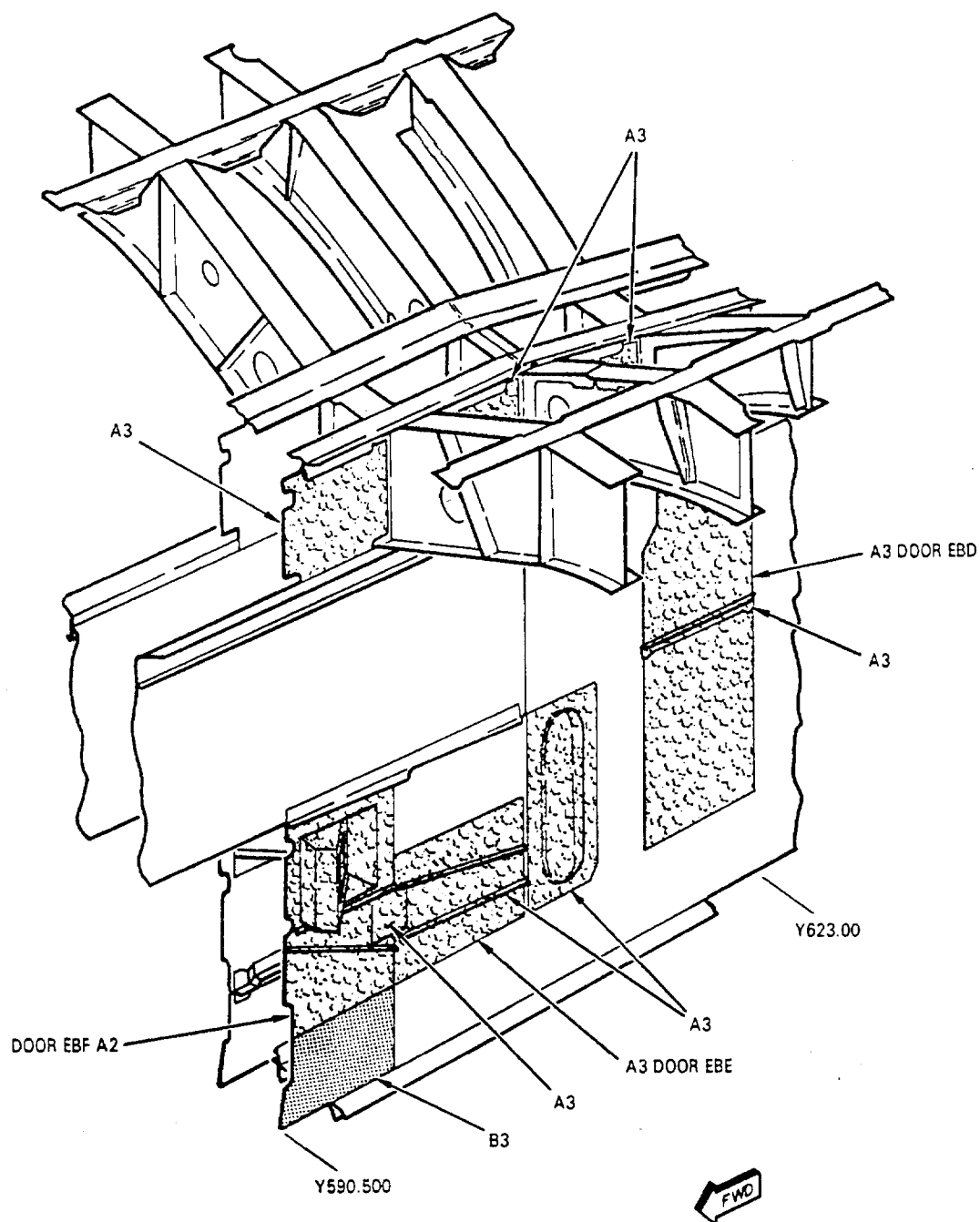


Figure 2. Repair Zones (Sheet 1)

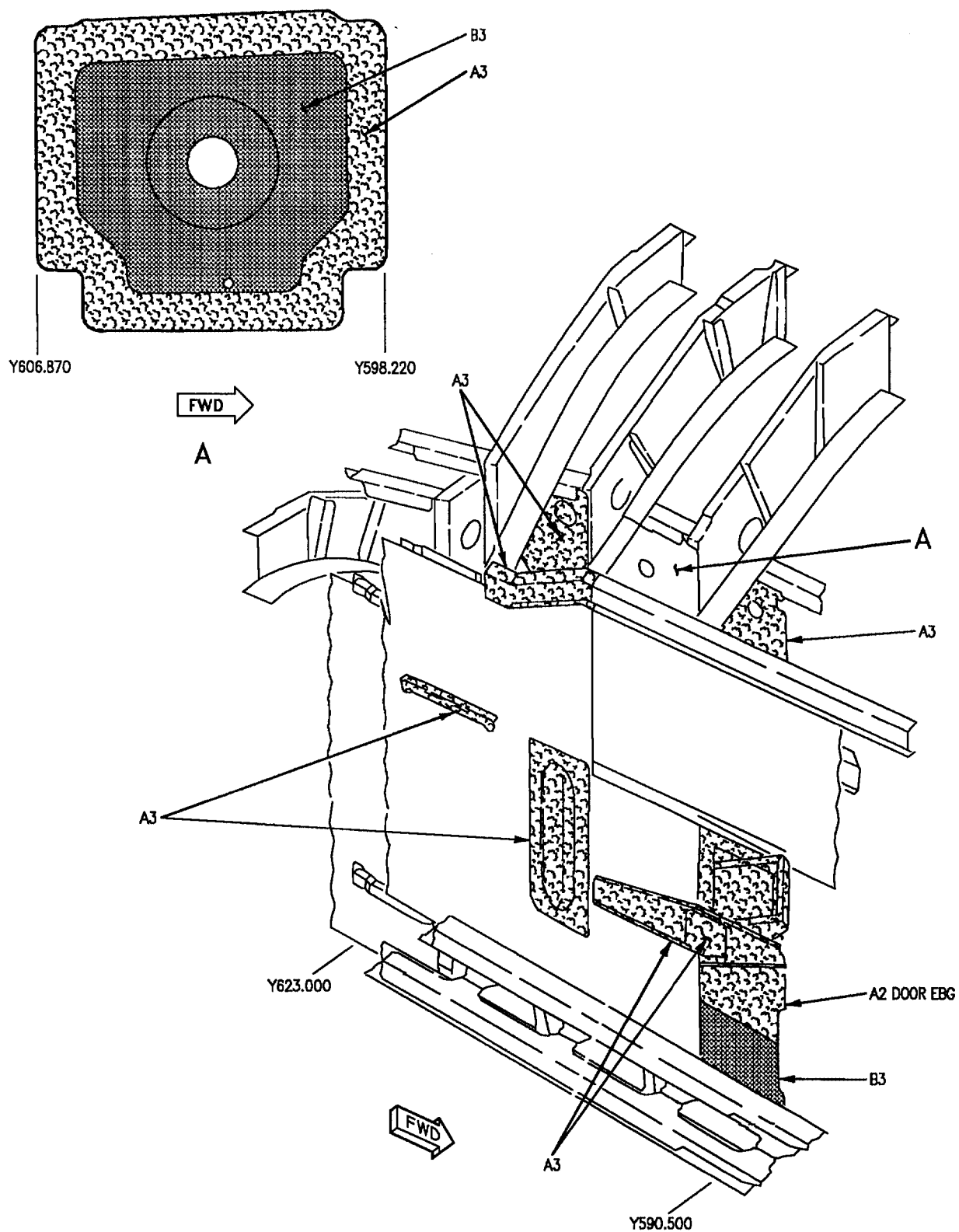


Figure 2. Repair Zones (Sheet 2)

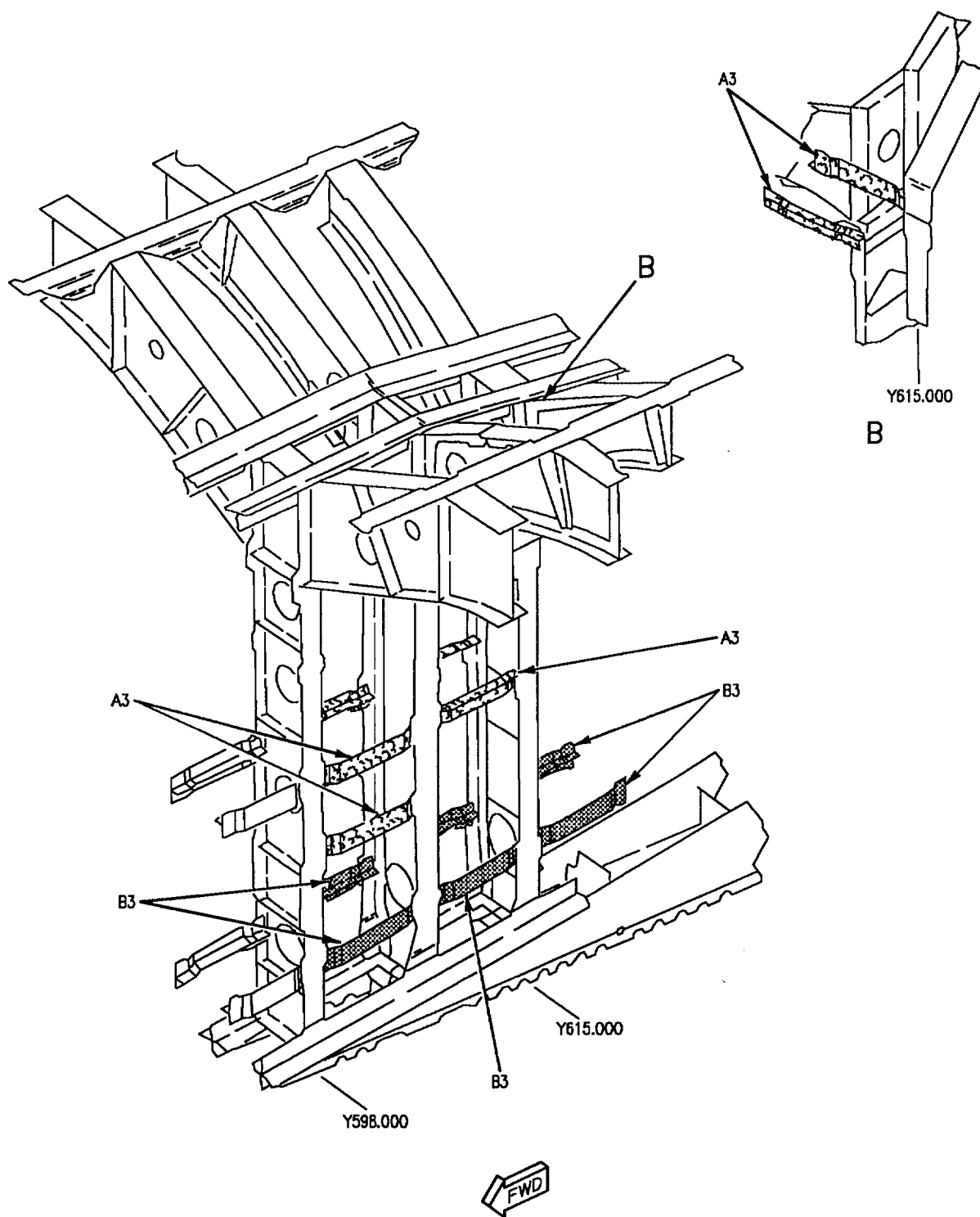


Figure 2. Repair Zones (Sheet 3)

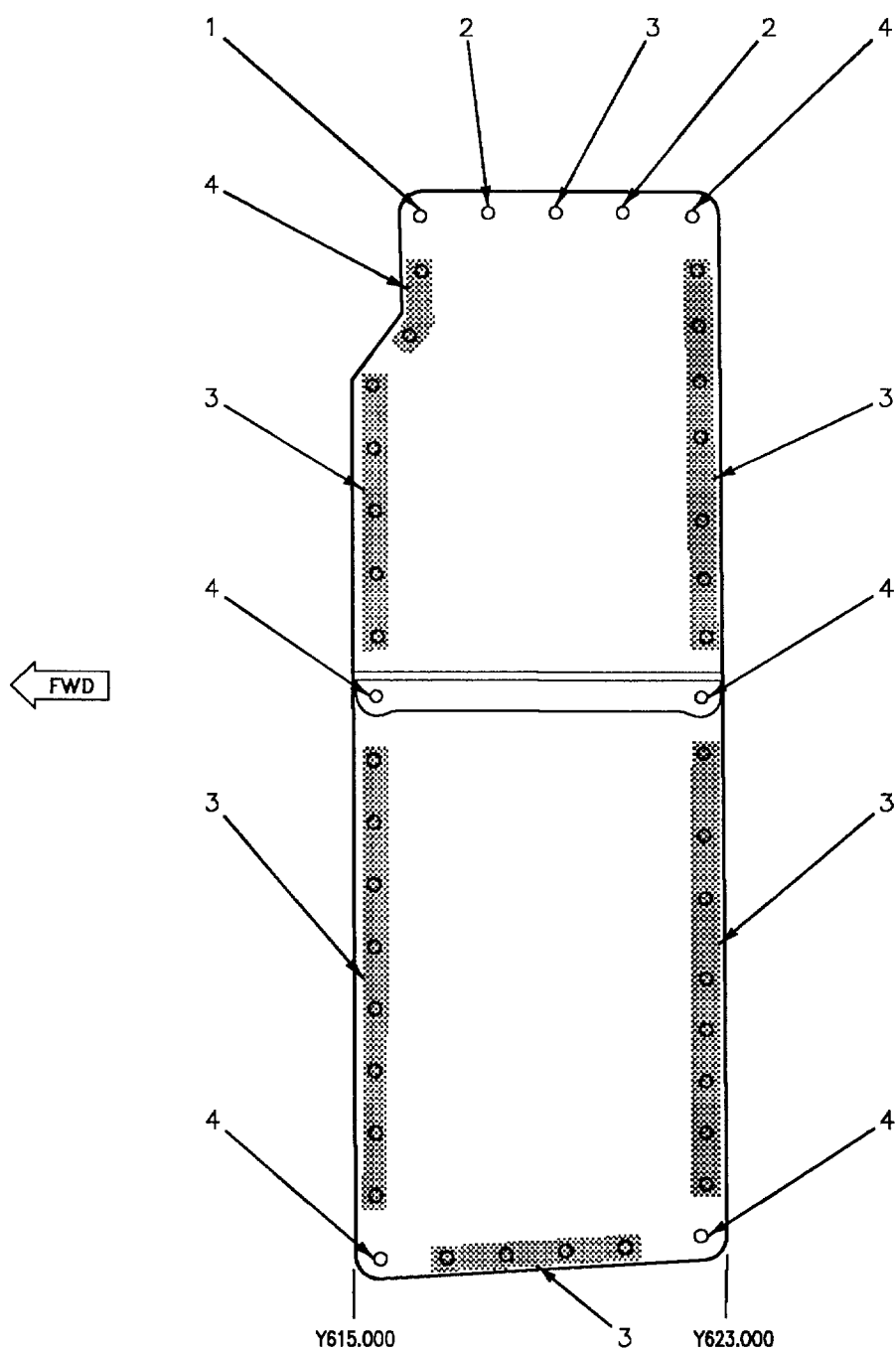


Figure 3. Cover, (Door EBD), Replacement (Sheet 1)

















Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F49249E3-1
2	 	 	Plate Nut  Plate Nut 	F49249E3-3 F49251E3-3
3			Plate Nut 	F49249E3-3
4			Plate Nut 	F49249E3-2
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.191 +0.006 -0.000.</p> <p> Attached with NAS1097AD3 rivets, length determined on installation.</p> <p> 161353 THRU 162477.</p> <p> 162826 AND UP.</p>				

Figure 3. Cover, (Door EBD), Replacement (Sheet 2)












Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F49249E3-3
2			Plate Nut 	F49249E3-4
3			Plate Nut 	F49249E3-2
4			Plate Nut 	F49249E3-1
LEGEND				
 Hole diameter is 0.191 +0.006 -0.000.				
 For these fasteners (A1-F18AC-410-300, WP007 00).				
 Attached with NAS1097AD3 rivets, length determined on installation.				

Figure 4. Cover, (Door EBE), Replacement (Sheet 2)

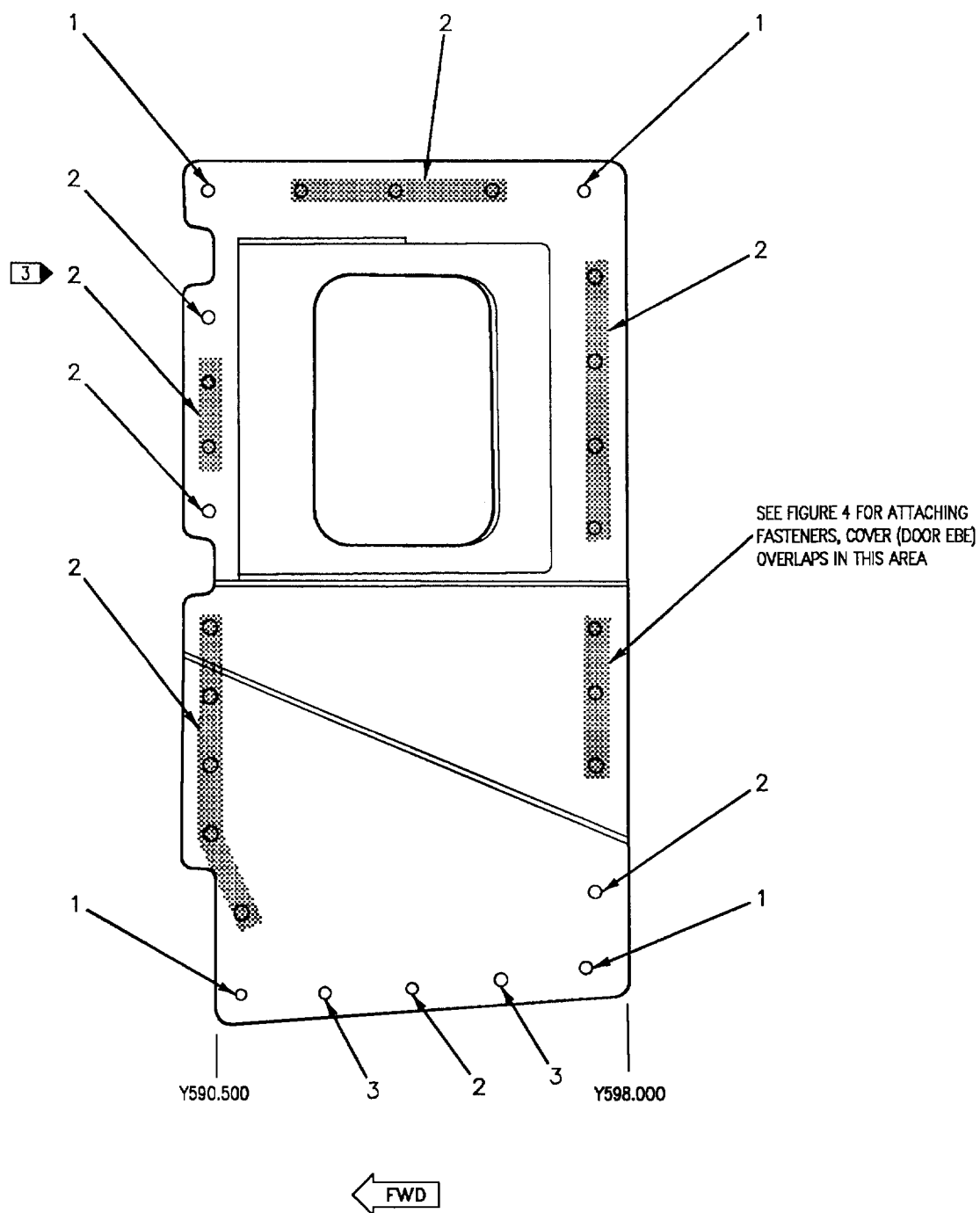


Figure 5. Cover, (Door EBF), Replacement (Sheet 1)










Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F50403-3-2
2			Plate Nut 	F49249E3-2
3			Plate Nut 	F49251E3-2
LEGEND				
 Hole diameter is 0.191 +0.006 -0.000.				
 Attached with NAS1097AD3 rivets, length determined on installation.				
 161353 THRU 161519.				

Figure 5. Cover, (Door EBF), Replacement (Sheet 2)

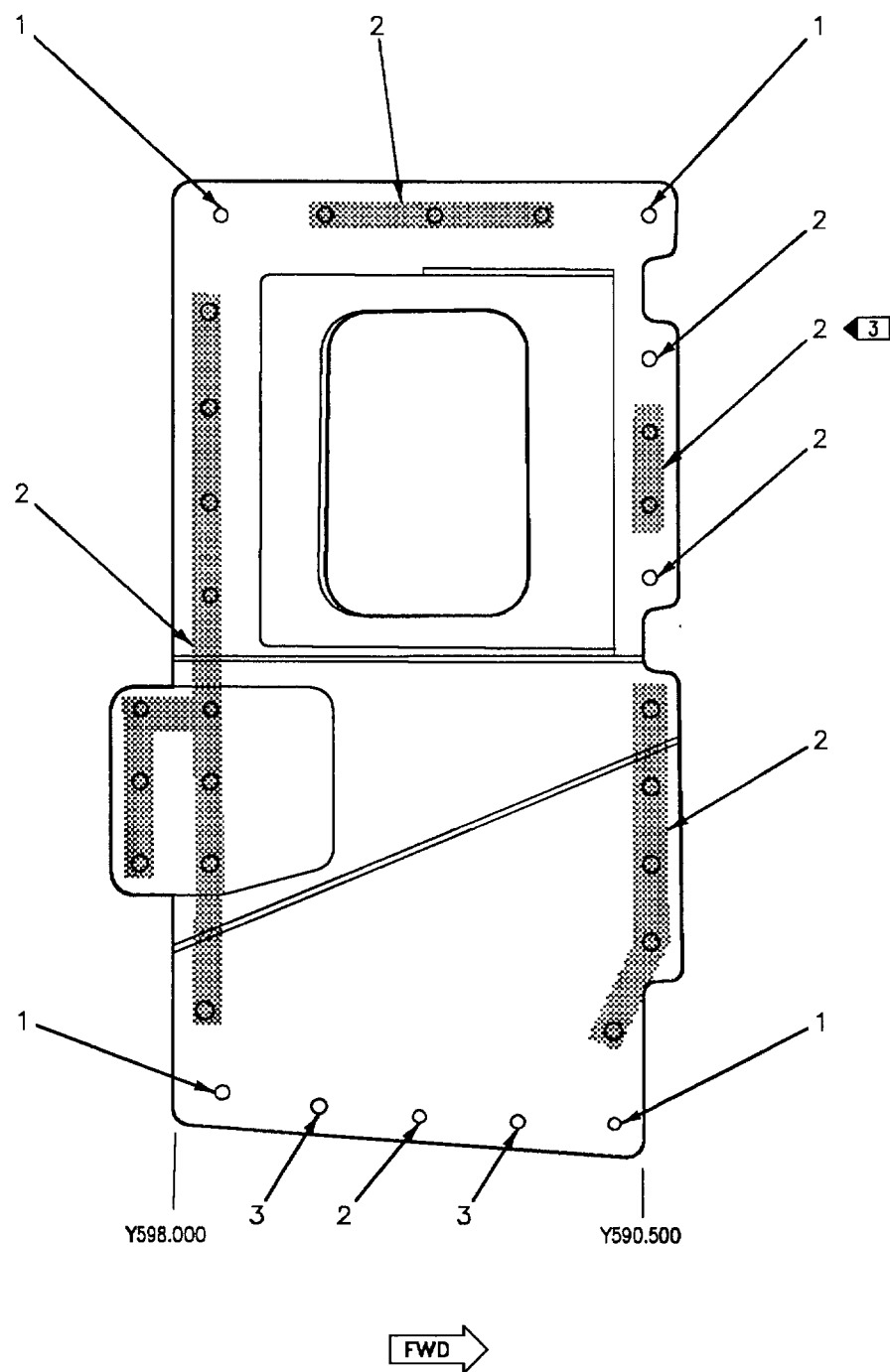


Figure 6. Cover, (Door EBG), Replacement (Sheet 1)










Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F50403-3-2
2			Plate Nut 	F49249E3-2
3			Plate Nut 	F49251E3-2
LEGEND				
 Hole diameter is 0.191 +0.006 -0.000.				
 Attached with NAS1097AD3 rivets, length determined on installation.				
 161353 THRU 161519.				

Figure 6. Cover, (Door EBG), Replacement (Sheet 2)

ORGANIZATIONAL MAINTENANCE

STRUCTURE REPAIR

AFT FUSELAGE SEGMENT (KEEL) Y623.000 TO Y657.350

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Fire and Thermal Barrier Coating	WP009 00
Aft Fuselage Finish System and Markings	WP036 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Titanium Patch Fabrication	WP006 03
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Titanium Sheet, Free of Structure and Land Area	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Titanium Sheet Edge Repair	WP035 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Dents	4
Edge	4
Holes	3
Scratches, Nicks, Gouges, or Corrosion	3

Record of Applicable Technical Directives

Type/Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 IAFC 109	-	Aft Engine Mount Support Structure, Rework of (ECP MDA-F/A-18-00305 R1)	1 Feb 92	-

Support Equipment Required

None

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

Materials Required

None

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLECTIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00). For firewall sealant, and fire and thermal barrier coating see WP023 00. Preparation and application of firewall sealant (A1-F18AC-SRM-200, WP011 00). Preparation and application of fire and thermal barrier coating (A1-F18AC-SRM-500, WP009 00).

7. PERMANENT REPAIRS.

8. Scratches, Nicks, Gouges, or Corrosion. Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet or titanium sheet as listed:

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zone A3, repair cracks free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Rout out crack.

(2) In repair zone A3, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A3 repair cracks across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone B3, repair cracks free of structure or land areas in titanium sheet, 0.025 inch thick or less as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zone A3, repair cracks to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zone A3, repair holes free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A3, repair holes across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC SRM-500, WP036 00).

c. In repair zone B3, repair holes free of structure or land areas in titanium sheet, 0.025 inch thick or less as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zone A3, repair holes to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zone A3, repair edge damage in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. **Dents.**

a. In repair zone A3, repair dents free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A3, repair dents across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone B3, repair dents free of structure or land areas in titanium sheet, 0.025 inch thick or less as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 03).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zone A3, repair dents to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

Table 1. Negligible Damage Limits








Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (1)	Web Zone A3 Zone A3	0.032	0.002	0.002	100%	 0.008
		0.016	0.001	0.001	100%	
Fig 1 (2)	Web Zone A3 Zone B3	0.032	0.002	0.002	100%	 0.008
		0.016	0.0006	0.0006	100%	
Fig 1 (3)	Web Zone A3	0.045	0.002	0.002	100%	0.023
Fig 1 (4)	Web Zone A3	0.045	0.002	0.002	100%	
Fig 1 (5)	Plate Zone A3	0.063	0.002	0.002	100%	0.032
Fig 1 (6)	Plate Zone B3	0.063	0.0006	0.0006	100%	0.032
Fig 1 (7)	Web Zone A3 Zone B3	0.040	0.002	0.002	100%	 0.015
		0.030	0.0006	0.0006	100%	
Fig 1 (8)	Base Zone B3	0.032	0.0006	0.0006	100%	
Fig 1 (9)	Web Zone A3 Zone A3	0.020	0.001	0.001	100%	 0.008
		0.016	0.001	0.001	100%	
Fig 1 (10)	Web Zone B3	0.050	0.0006	0.0006	100%	

Table 1. Negligible Damage Limits (Continued)





Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (11)	Base Zone B3	0.032	0.0006	0.0006	100%	
Fig 1 (12)	Stiffener Zone A3	0.040	0.002	0.002	100%	0.020
Fig 1 (13)	Web Zone A3 Zone B3	0.050	0.002	0.002	100%	
		0.028	0.0006	0.0006	100%	
Fig 1 (14)	Stringer Zone A3 Zone A3	0.071	0.002	0.002	100%	
		0.063	0.002	0.002	100%	
Fig 1 (15)	Support Zone A3	0.050	0.002	0.002	100%	0.025
Fig 1 (16)	Stringer Zone A3	0.125	0.002	0.002	100%	0.063
Fig 1 (17)	Stringer Zone B3	0.063	0.0006	0.0006	100%	0.032
Fig 1 (18)	Stringer Zone A3	0.078	0.002	0.002	100%	0.039
Fig 1 (19)	Stringer Zone B3	0.063	0.0006	0.0006	100%	0.032
Fig 1 (20)	Stringer Zone A3	0.080	0.002	0.002	100%	0.040
Fig 1 (21)	Intercostal Zone A3	0.071	0.002	0.002	100%	0.035
Fig 1 (22)	Web Zone A3	0.032	0.002	0.002	100%	
	Zone A3	0.016	0.001	0.001	100%	
	Zone B3	0.040	0.0006	0.0006	100%	

Table 1. Negligible Damage Limits (Continued)











Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (23)	Web	0.063	0.002	0.002	100%	
	Zone A3	0.040	0.002	0.002	100%	
	Zone A3	0.020	0.001	0.001	100%	
	Zone A3	0.016	0.001	0.001	100%	0.008
	Zone B3	0.071	0.0006	0.0006	100%	
	Zone B3	0.050	0.0006	0.0006	100%	
	Zone B3	0.016	0.0006	0.0006	100%	0.008
Fig 1 (24)	Web	0.060	0.002	0.002	100%	
	Zone A3	0.040	0.002	0.002	100%	
	Zone A3	0.020	0.001	0.001	100%	0.010
	Zone A3	0.016	0.001	0.001	100%	0.008
	Zone B3	0.071	0.0006	0.0006	100%	
	Zone B3	0.050	0.0006	0.0006	100%	
	Zone B3	0.032	0.0006	0.0006	100%	0.016
	Zone B3	0.016	0.0006	0.0006	100%	0.008
Fig 1 (25)	Stop					
	Zone A3	0.150	0.002	0.002	100%	0.075
	Zone A3	0.125	0.002	0.002	100%	0.063
Fig 1 (26)	Zone A3	0.080	0.002	0.002	100%	0.040
	Support					
	Zone B3	0.080	0.0006	0.0006	100%	0.040
Fig 1 (27)	Zone B3	0.160	0.0006	0.0006	100%	0.080
	Zone B3	0.100	0.0006	0.0006	100%	0.050
	Zone B3					
Fig 1 (28)	Fitting					
	Zone B3	0.250	0.0006	0.0006	100%	0.125
	Zone B3	0.180	0.0006	0.0006	100%	0.090
	Zone B3	0.120	0.0006	0.0006	100%	0.060
	Zone B3	0.110	0.0006	0.0006	100%	0.055
Fig 1 (28)	Zone C3	0.300	0.0006	0.0006	100%	

Table 1. Negligible Damage Limits (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth
				Depth	Area	
Fig 1 (29)	Base					
	<div><div>1</div></div>	0.120	0.0006	0.0006	100%	<div><div>2</div></div>
	<div><div>1</div></div>	0.250	0.0006	0.0006	100%	<div><div>2</div></div>
	<div><div>1</div></div>	0.375	0.0006	0.0006	100%	<div><div>2</div></div>
Fig 1 (30)	Pin					
	<div><div>1</div></div>	0.250	0.0006	0.0006	100%	<div><div>2</div></div>
Fig 1 (31)	Stop					
	<div><div>1</div></div>	0.150	0.0006	0.0006	100%	<div><div>2</div></div>
	<div><div>1</div></div>	0.135	0.0006	0.0006	100%	<div><div>2</div></div>
<div><div>NOTE</div><div><div><div>1</div></div> These parts have allowable damage but repair is not practical. Parts exceeding repairable damage limits in table 2 require a depot engineering disposition.</div><div><div><div>2</div></div> None allowed.</div></div>						

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (1)	Web Zone A3 Zone A3	0.032	0.045	0.006	0.006	10%	0.006	10%
		0.016	NA	0.003	0.003	40%	0.003	40%
Fig 1 (2)	Web Zone A3 Zone B3	0.032	0.045	0.006	0.006	10%	0.006	10%
		0.016	0.0006	0.003	0.003	30%	0.003	30%
Fig 1 (3)	Web Zone A3	0.045	0.050	0.009	0.009	40%	0.009	40%
Fig 1 (4)	Web Zone A3	0.045	0.050	0.009	0.009	20%	0.009	20%
Fig 1 (5)	Plate zone A3	0.063	0.080	0.012	0.012	20%	0.012	20%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (6)	Plate Zone B3	0.063	0.080	0.013	0.013	25%	0.013	25%
Fig 1 (7)	Web Zone A3 Zone B3	0.040	0.045 NA	0.008	0.008	10%	0.008	10%
		0.030		0.006	0.006	40%	0.006	40%
Fig 1 (8)	Base Zone B3	0.032	0.006	0.006	0.006	20%	0.006	20%
Fig 1 (9)	Web Zone A3 Zone A3	0.020	0.045 NA	0.004	0.004	10%	0.004	10%
		0.016		0.003	0.003	50%	0.003	50%
Fig 1 (10)	Web Zone B3	0.050	0.006	0.010	0.010	20%	0.010	20%
Fig 1 (11)	Base Zone B3	0.032	0.006	0.006	0.006	10%	0.006	10%
Fig 1 (12)	Stiffener Zone A3	0.040	0.080	0.008	0.008	20%	0.008	20%
Fig 1 (13)	Web Zone A3 Zone B3	0.050	0.045 NA	0.010	0.010	10%	0.010	10%
		0.028		0.006	0.006	30%	0.006	30%
Fig 1 (14)	Stringer Zone A3 Zone A3	0.071	0.045 0.050	0.014	0.014	10%	0.014	10%
		0.063		0.012	0.012	20%	0.012	20%
Fig 1 (15)	Support Zone A3	0.050	0.045	0.010	0.010	20%	0.010	20%
Fig 1 (16)	Stringer Zone A3	0.125	0.045	0.025	0.025	20%	0.025	20%
Fig 1 (17)	Stringer Zone B3	0.063	0.006	0.013	0.013	20%	0.013	20%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (18)	Stringer Zone A3	0.078	0.045	0.016	0.016	20%	0.016	20%
Fig 1 (19)	Stringer Zone B3	0.063	0.050	0.013	0.013	20%	0.013	20%
Fig 1 (20)	Stringer Zone A3	0.080	0.050	0.016	0.016	20%	0.016	20%
Fig 1 (21)	Intercostal Zone A3	0.071	0.045	0.014	0.014	20%	0.014	20%
Fig 1 (22)	Web Zone A3	0.032	0.045	0.006	0.006	10%	0.006	10%
	Zone A3	0.016	0.045	0.003	0.003	50%	0.003	50%
	Zone B3	0.040	0.0006	0.008	0.008	30%	0.008	30%
Fig 1 (23)	Web Zone A3	0.063	NA	0.013	0.013	10%	0.013	10%
	Zone A3	0.040	0.045	0.008	0.008	10%	0.008	10%
	Zone A3	0.020	0.045	0.004	0.004	10%	0.004	10%
	Zone A3	0.016	0.045	0.003	0.003	50%	0.003	50%
	Zone B3	0.071	0.0006	0.014	0.014	10%	0.014	10%
	Zone B3	0.050	0.0006	0.010	0.010	10%	0.010	10%
	Zone B3	0.016	NA	0.003	0.003	30%	0.003	30%
Fig 1 (24)	Web Zone A3	0.060	NA	0.012	0.012	10%	0.012	10%
	Zone A3	0.040	0.045	0.008	0.008	10%	0.008	10%
	Zone A3	0.020	0.045	0.004	0.004	50%	0.004	50%
	Zone A3	0.016	NA	0.003	0.003	50%	0.003	50%
	Zone B3	0.071	0.0006	0.014	0.014	10%	0.014	10%
	Zone B3	0.050	0.0006	0.010	0.010	10%	0.010	10%
	Zone B3	0.032	NA	0.006	0.006	30%	0.006	30%
	Zone B3	0.016	NA	0.003	0.003	30%	0.003	30%
Fig 1 (25)	Stop Zone A3	0.150	0.045	0.030	0.030	10%	0.030	10%
	Zone A3	0.125	0.045	0.025	0.025	20%	0.025	20%
	Zone A3	0.080	0.070	0.016	0.016	20%	0.016	20%

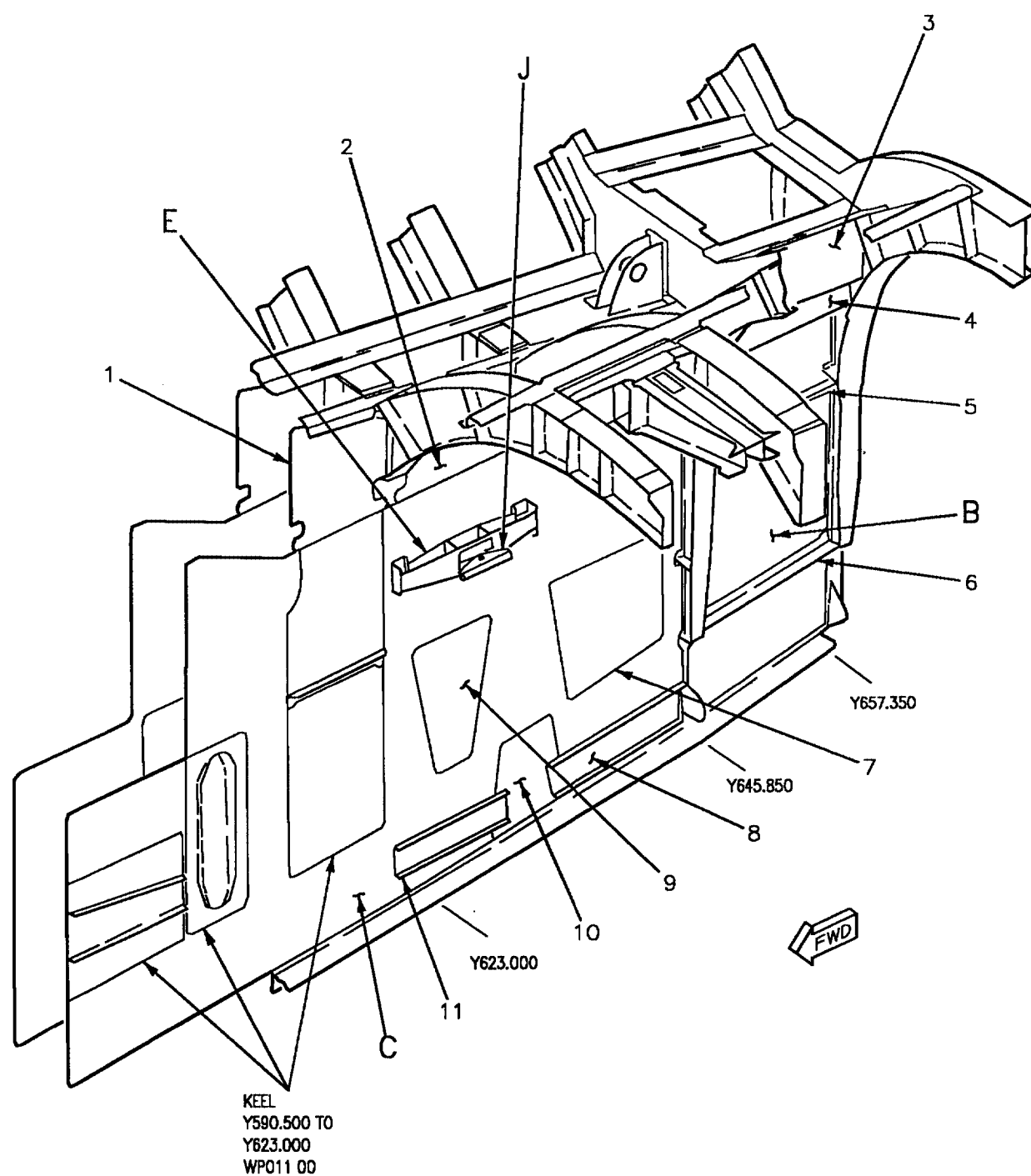


Figure 1. Material Index (Sheet 1)

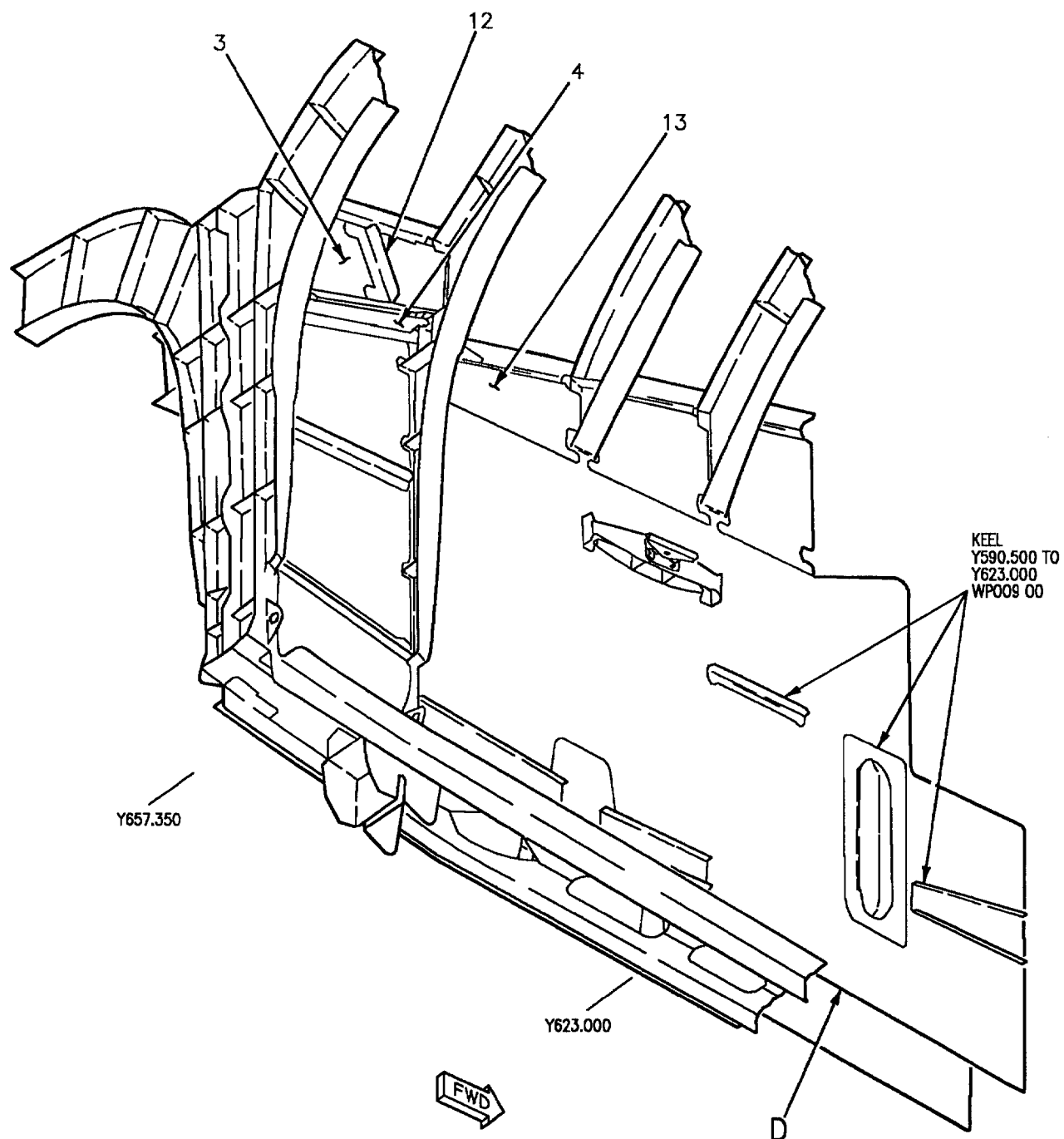


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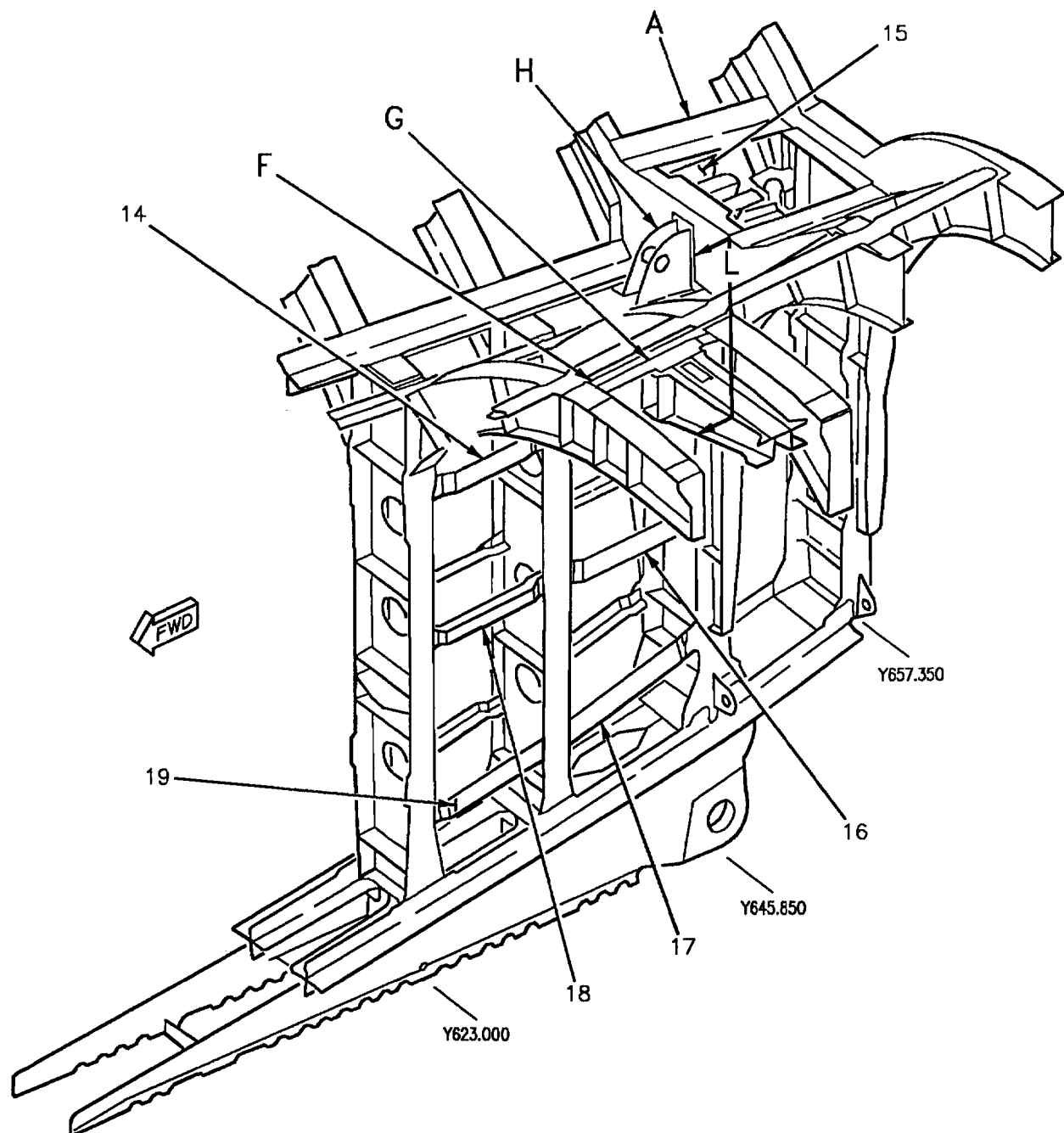


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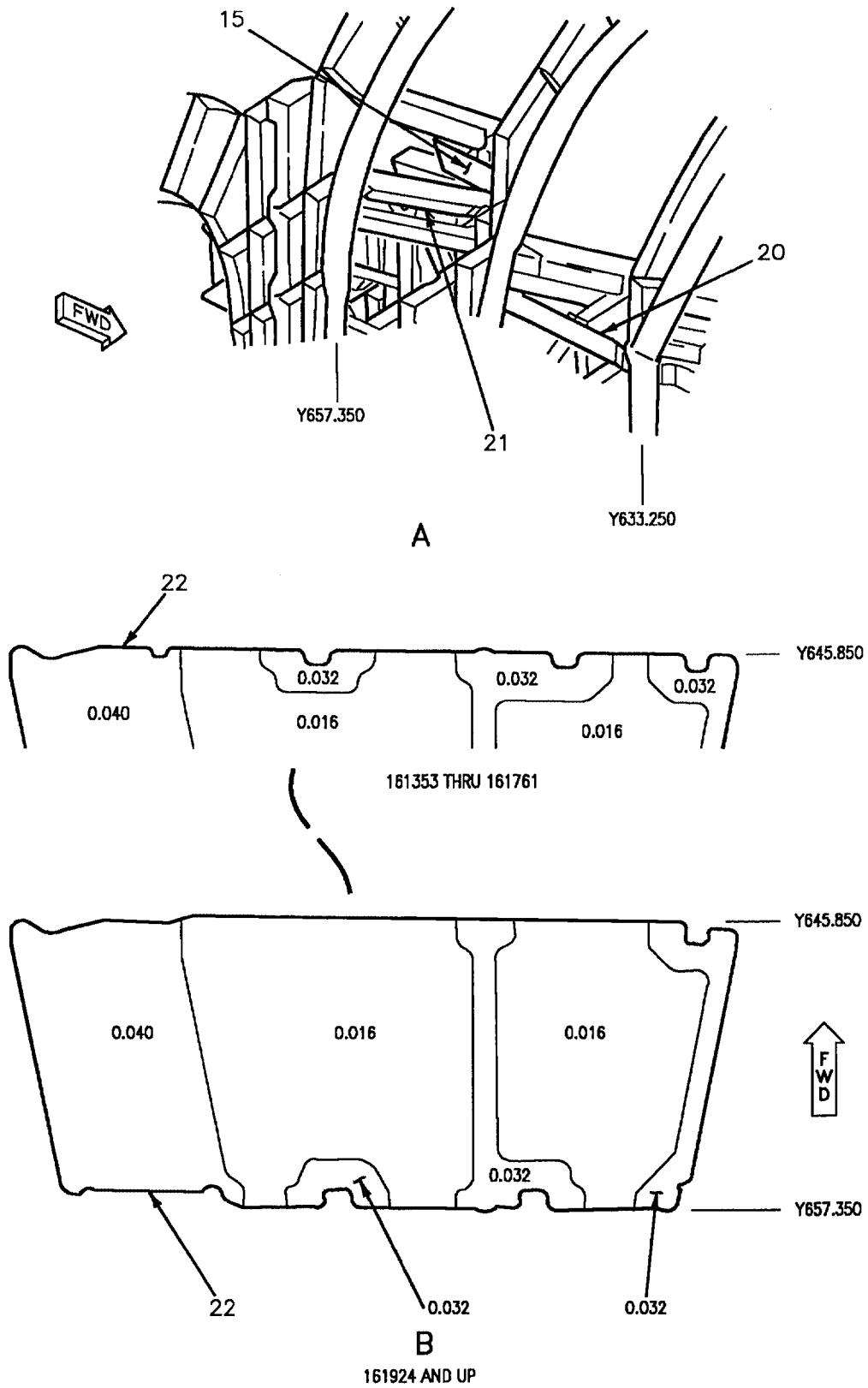


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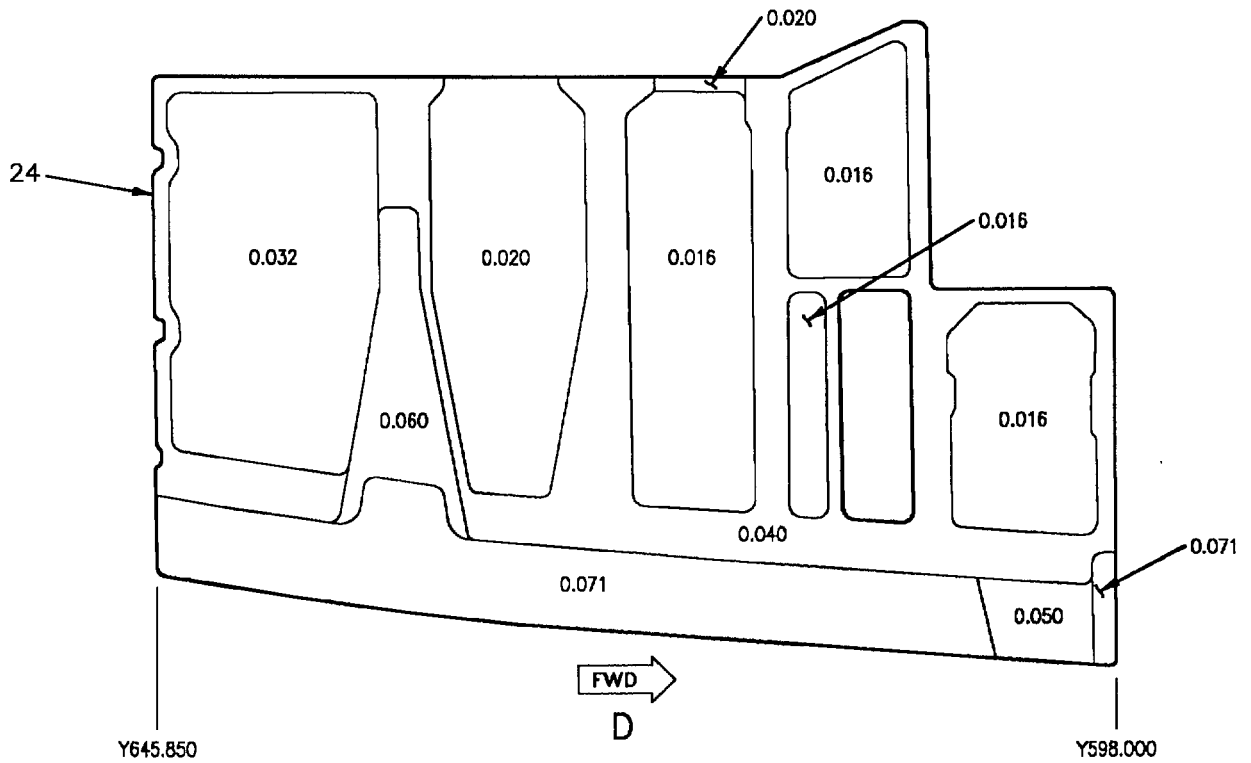
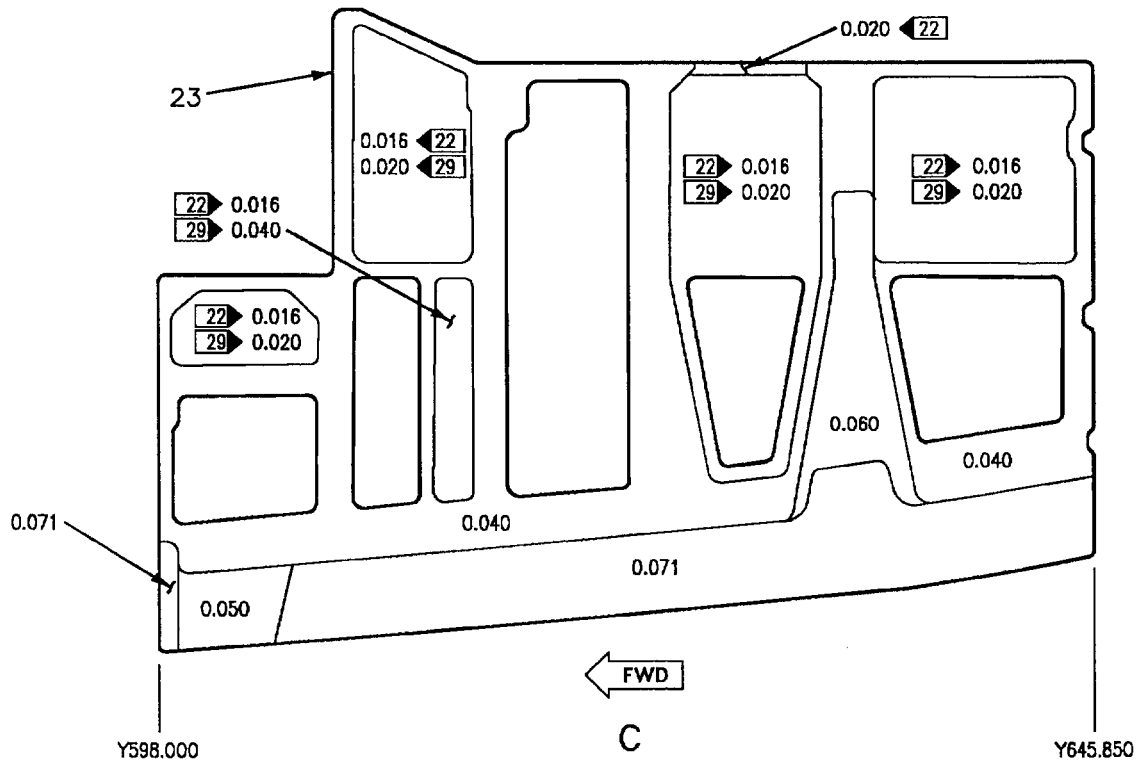


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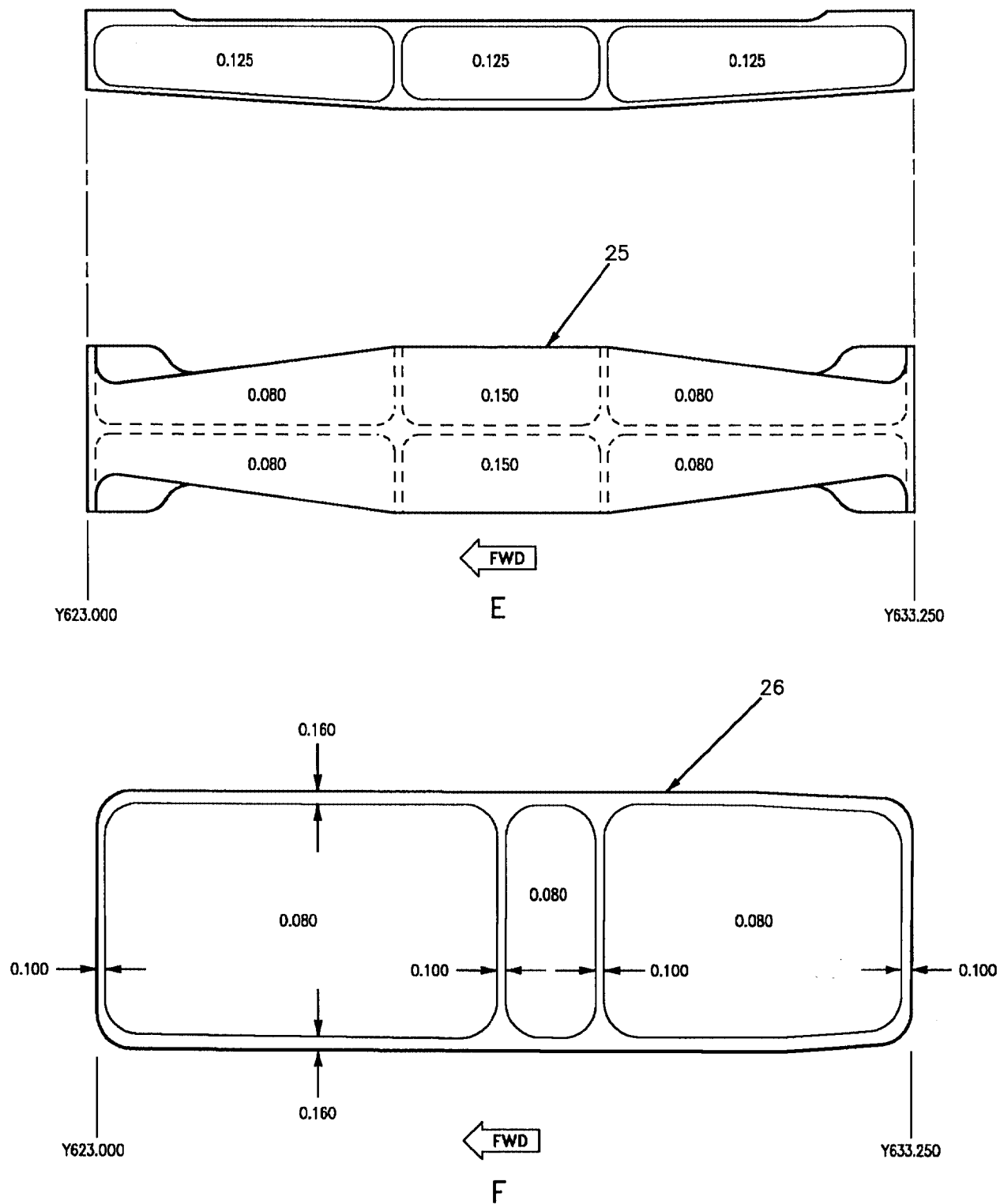


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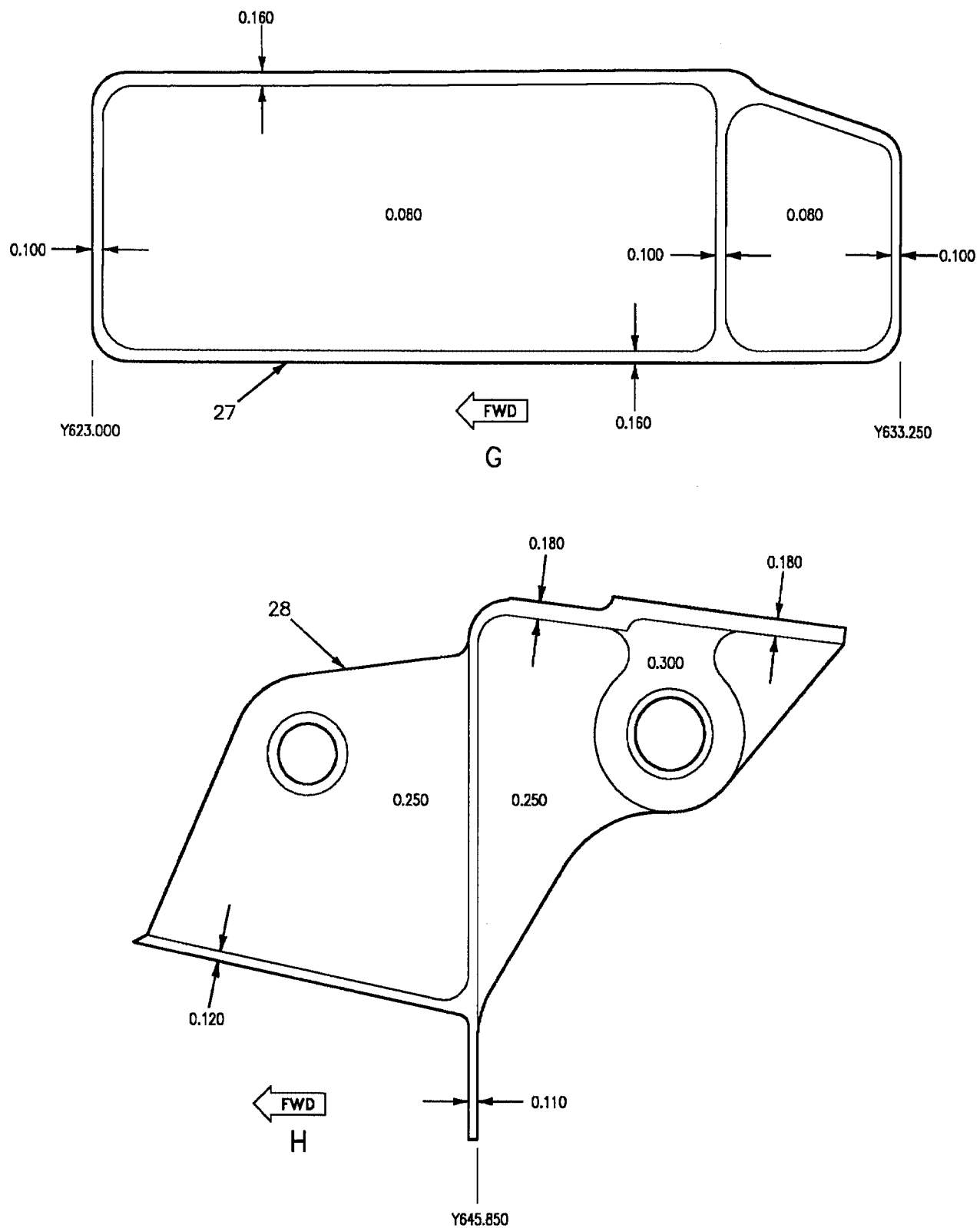


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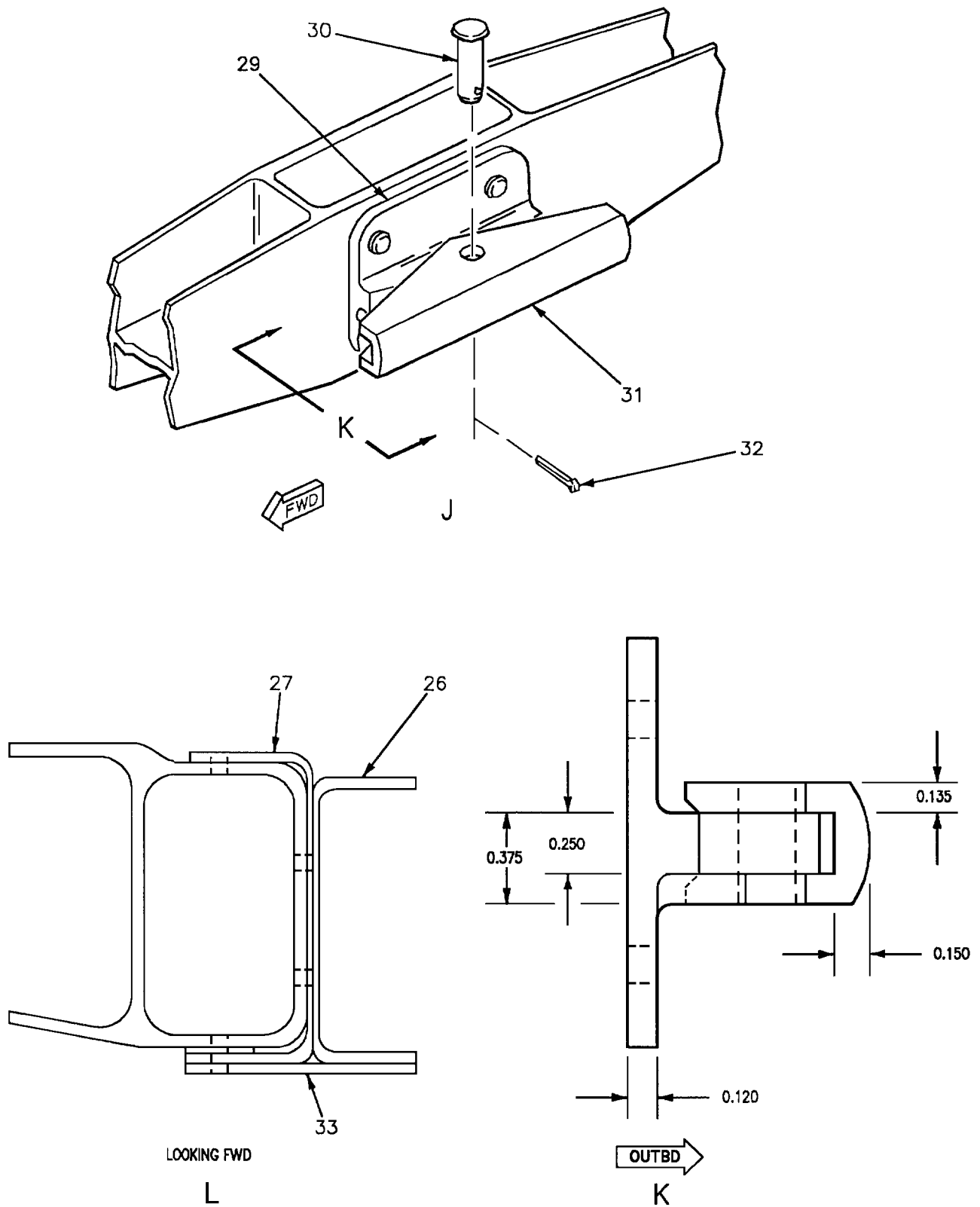


Figure 1. Material Index (Sheet 8)










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2		Web 74A332537-2025, -2026	 Sheet	6Al-4V Ti Anl
3		Web 74A332509-2007	0.045 Sheet	6Al-4V Ti Anl
4		Web 74A332509-2005	0.045 Sheet	6Al-4V Ti Anl
5		Plate 74A332543-2021, -2022	0.063 Sheet	6Al-4V Ti Anl
6		Plate 74A332543-2015, -2016	0.063 Sheet	6Al-4V Ti Anl
7	 	Web 74A332536-2025 74A332536-9017	 Sheet	6Al-4V Ti Anl
8		Base 74A501063-2003, -2004	0.032 Sheet	Ti Unalloyed - 70
9		Web 74A332536-2027	 Sheet	6Al-4V Ti Anl
10		Web 74A332536-2011, -2012	0.050 Sheet	6Al-4V Ti Anl
11		Base 74A501062-2003, -2004	0.032 Sheet	Ti Unalloyed - 70
12		Stiffener 74A332514-2005, -2006	0.040 Sheet	6Al-4V Ti Anl
13		Web 74A332537-2002, -2001	 Sheet	6Al-4V Ti Anl
14		Stringer 74A332550-2015, -2016	1MA160D01-10309 Extr	7075-T76 Al Aly
15		Support 74A695302-2003	0.050 Sheet	7075-T6 Alclad
16	 	Stringer 74A332549-2021, -2022 74A332549-9001, -2022	0.125 Made From 1MA160D06-10078 Extr	7075-T76511 Al Aly
17		Stringer 74A332546-2001, -2002	1MA10420D01 Extr	7075-T76 Al Aly
18		Stringer 74A332549-2020, -2019	1MA160D06-10047 Extr	7075-T76511 Al Aly

Figure 1. Material Index (Sheet 9)





























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20		Stringer 74A332550-2022, -2021	0.080 Made From 1MA160D01-10151 Extr	7075-T76 Al Aly
21 R L R L	    	Intercostal 74A332506-2002 74A332506-2001 74A332506-2004 74A332506-2003 74A332506-2006, -2005	0.071 Sheet	7075-T62 Alclad
22	 	Web 74A332537-2027, -2028 74A332537-2037, -2038	 Sheet	6Al-4V Ti Anl
23	   	Web 74A332536-2021 74A332536-9003 74A332536-2047 74A332536-2053	 Sheet	6Al-4V Ti Anl
24	      	Web 74A332536-2033 74A332536-9001 74A332536-2039 74A332536-9005 74A332536-9009 74A332536-9015 74A332536-2055	 Sheet	6Al-4V Ti Anl
25		Stop 74A332161-2005	 Bar	7075-T7351 Al Aly
26		Support 74A332168-2003, -2004	 Machined Forging	7075-T73 Al Aly
27		Fitting 74A332166-2003, -2004	 Machined Forging	7075-T73 Al Aly
28	 	Fitting 74A332590-2003 74A332590-2005	 Machined Forging	6Al-4V Ti Anl
29		Base 74A501241-2003, -2004	 Bar	6Al-4V Ti Anl

Figure 1. Material Index (Sheet 10)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
30		Pin 3M39C3-19	1/4 Dia Steel	Cres
31	<div>33</div> <div>34</div>	Stop 74A501241-2005 74A501241-2009	<div>11</div> Bar	17-4PH
32		Cotter Pin MS24665-300	3/32 Dia Steel	Cres
33	<div>35</div>	Plate 74R330033-2001	0.160 Sheet	7075-T76 Alclad
LEGEND <div> <div>1</div> Land is 0.032 and bay is 0.016. <div>2</div> Land is 0.040 and bay is 0.030. <div>3</div> Land is 0.020 and bay is 0.016. <div>4</div> Land is 0.050 and bay is 0.028. <div>5</div> 0.040 stock size machined as shown. <div>6</div> 0.071 stock size machined as shown. <div>7</div> Machined as shown on detail E. <div>8</div> Machined as shown on detail F. <div>9</div> Machined as shown on detail G. <div>10</div> Machined as shown on detail H. <div>11</div> Machined as shown on detail J. <div>12</div> 161353 THRU 161761. <div>13</div> 161924 AND UP. <div>14</div> 161353 THRU 161971. <div>15</div> 161353 THRU 161976. <div>16</div> 161353 THRU 161743, 161745 THRU 161760. <div>17</div> 161744, 161761 AND UP. <div>18</div> 161353 THRU 161965. <div>19</div> 161966 THRU 161971. <div>20</div> 161972 THRU 162477. <div>21</div> 161977 THRU 162477. <div>22</div> 161353 THRU 162444. <div>23</div> 162445 THRU 162475. <div>24</div> 161972 THRU 162444. <div>25</div> 162826 AND UP. <div>26</div> 162476 THRU 162907. <div>27</div> 162476 THRU 162852. <div>28</div> 162853 THRU 162907. <div>29</div> 162445 AND UP. <div>30</div> 161353 THRU 162899. <div>31</div> 162900 AND UP. <div>32</div> 162908 AND UP. <div>33</div> 161353 THRU 162430. <div>34</div> 162431 AND UP. <div>35</div> F/A-18A, F/A-18B AFTER IAFC 109. </div>				

Figure 1. Material Index (Sheet 11)

LEGEND

- 1 THESE PARTS HAVE ALLOWABLE DAMAGE BUT REPAIR IS NOT PRACTICAL. PARTS EXCEEDING REPAIRABLE DAMAGE LIMITS IN TABLE 2 REQUIRE A DEPOT ENGINEERING DISPOSITION.

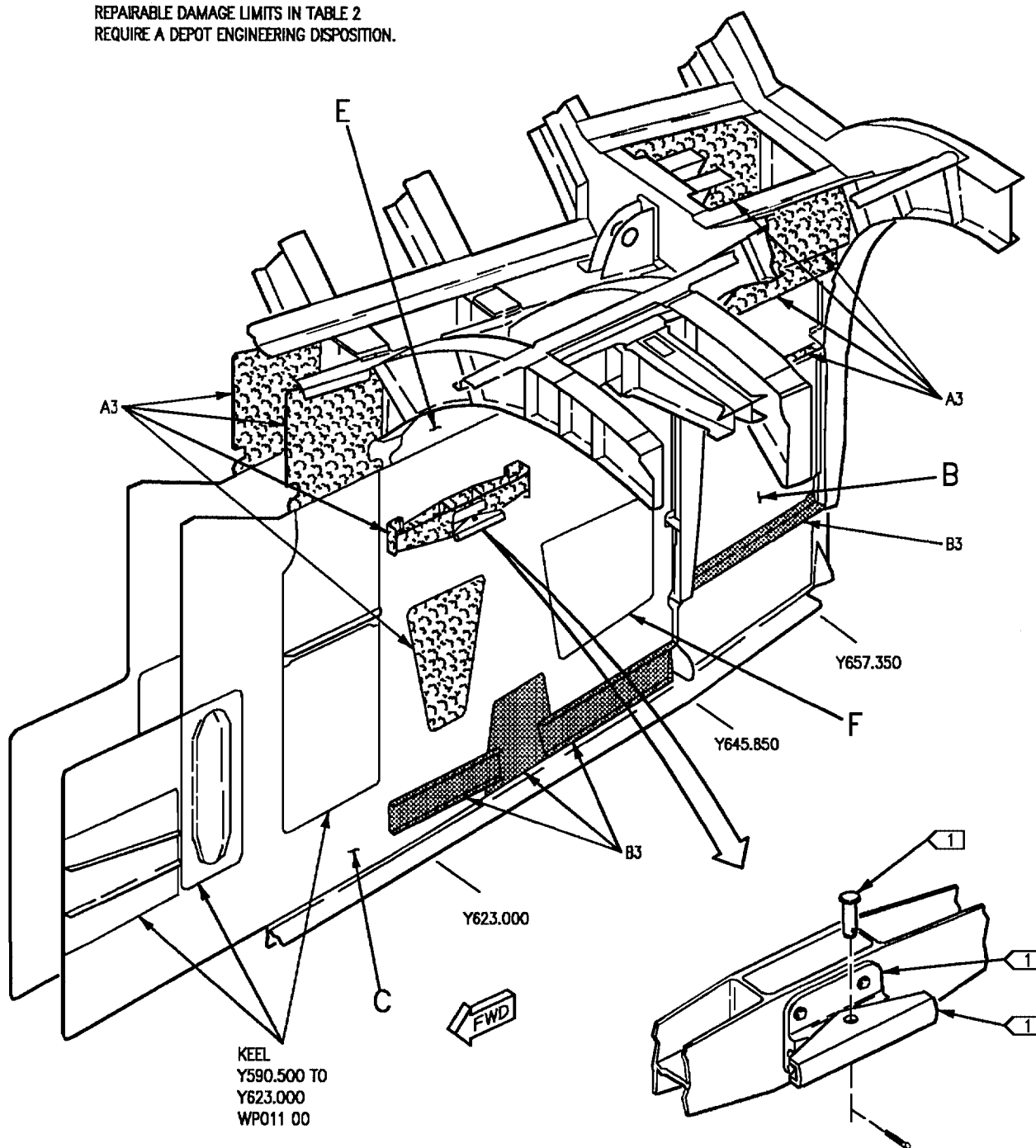


Figure 2. Repair Zones (Sheet 1)

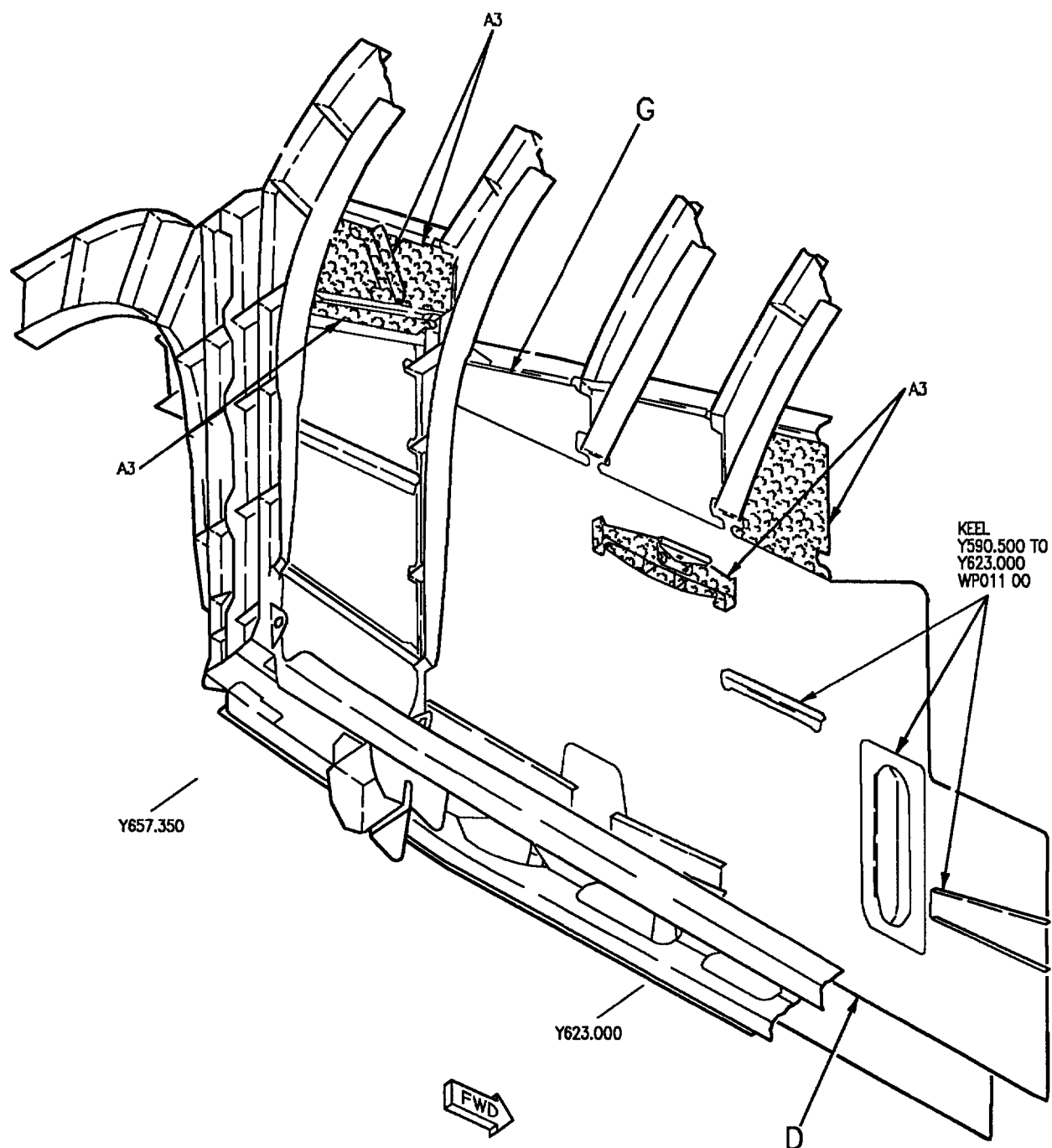


Figure 2. Repair Zones (Sheet 2)

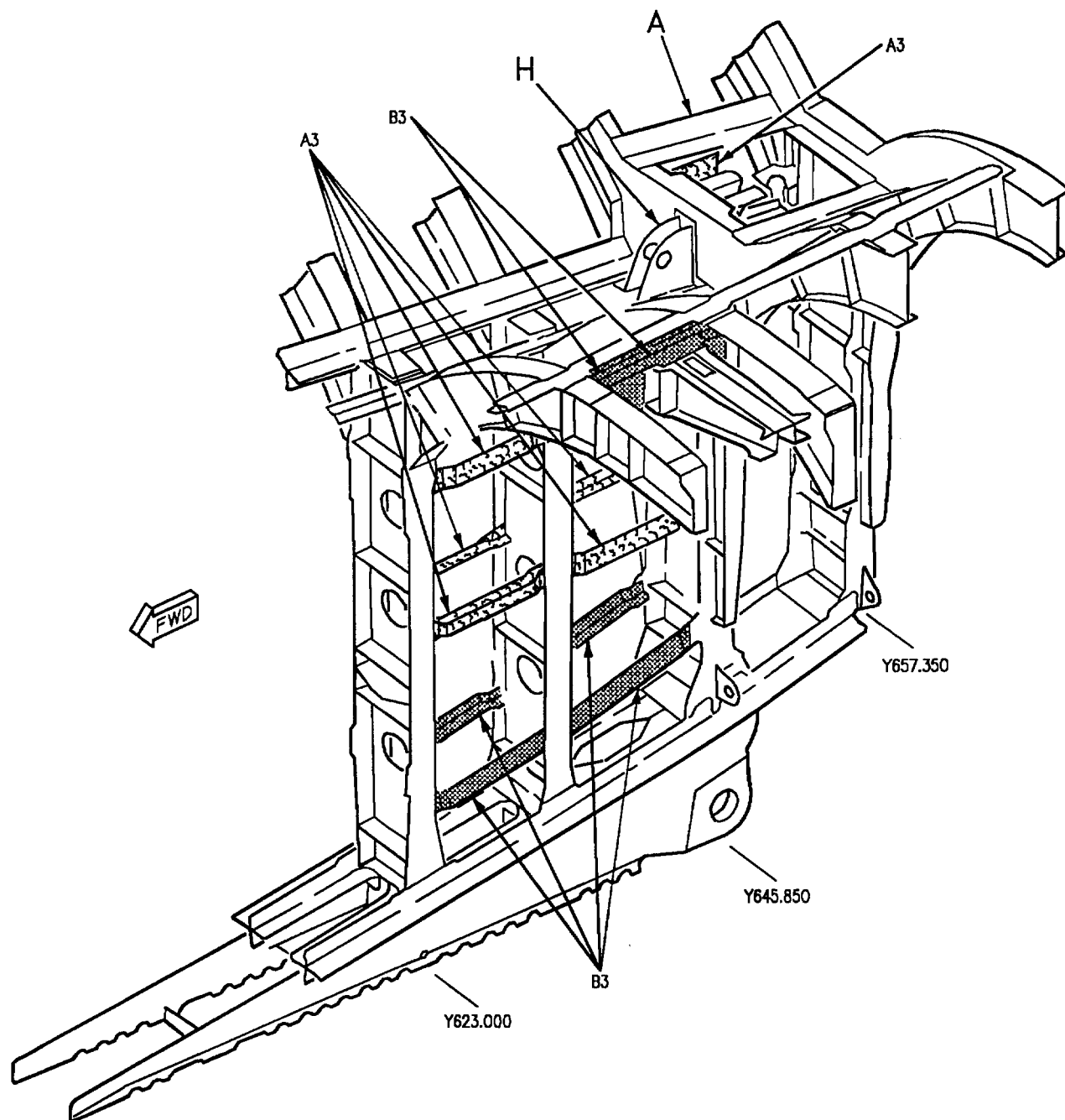


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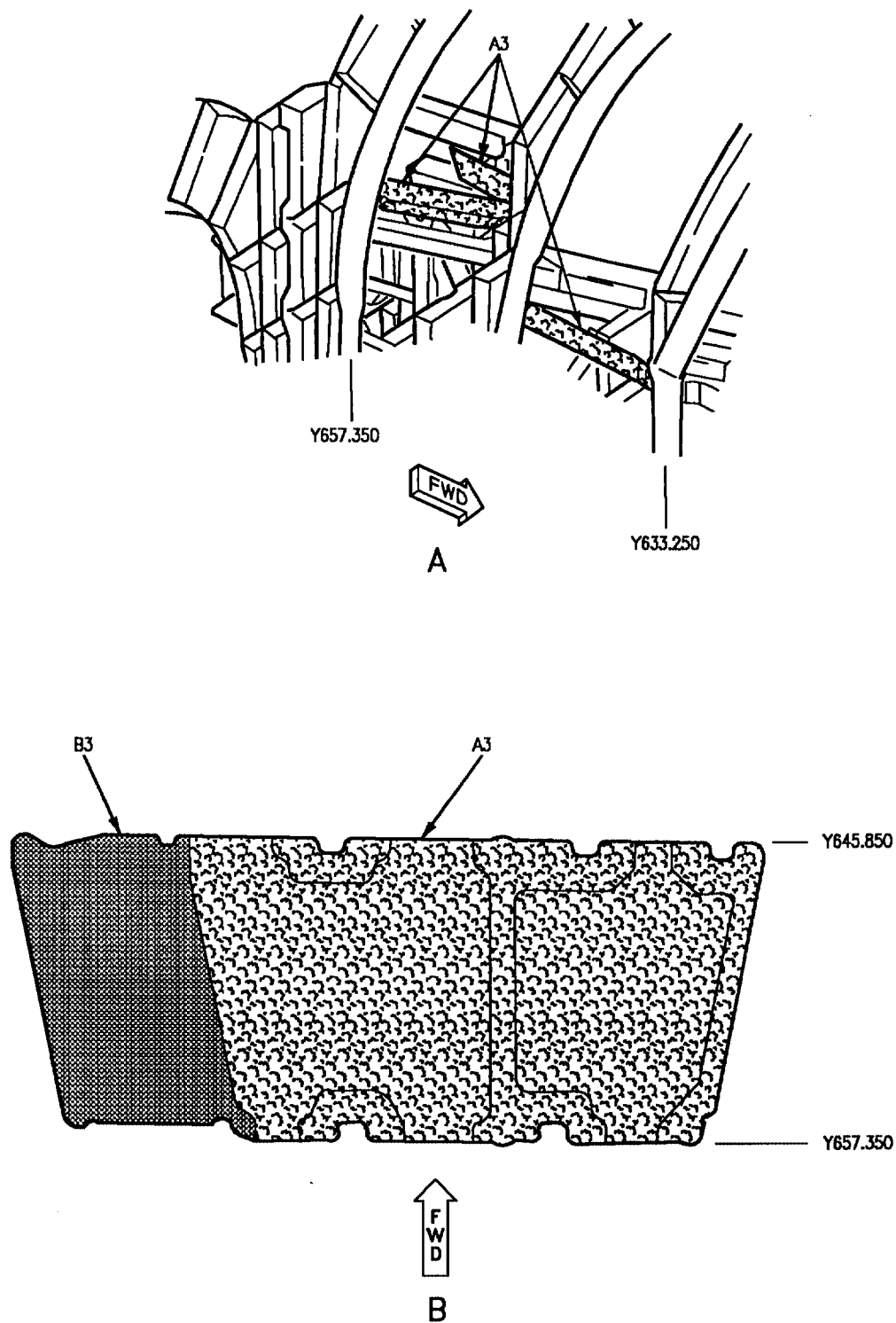


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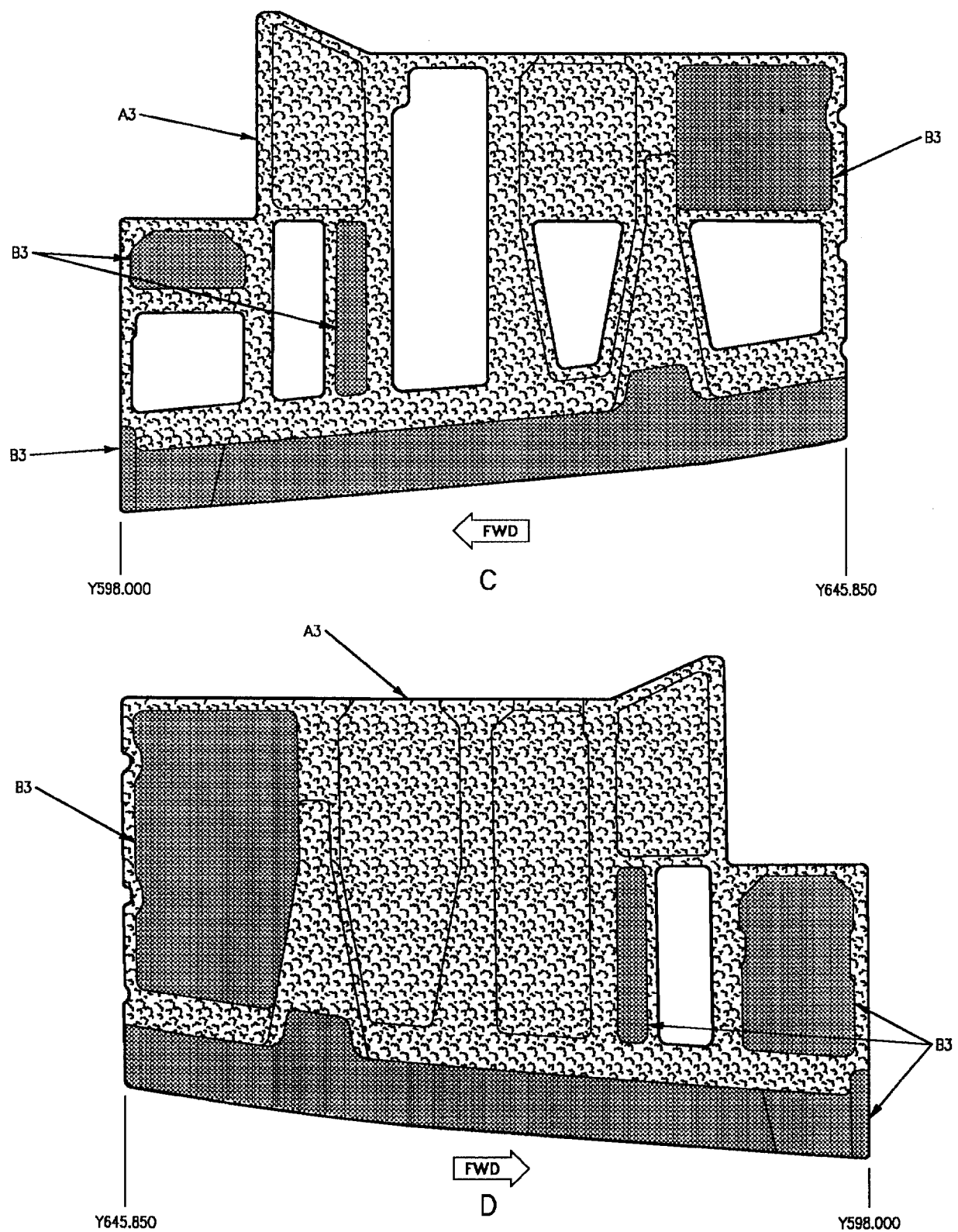


Figure 2. Repair Zones (Sheet 5)

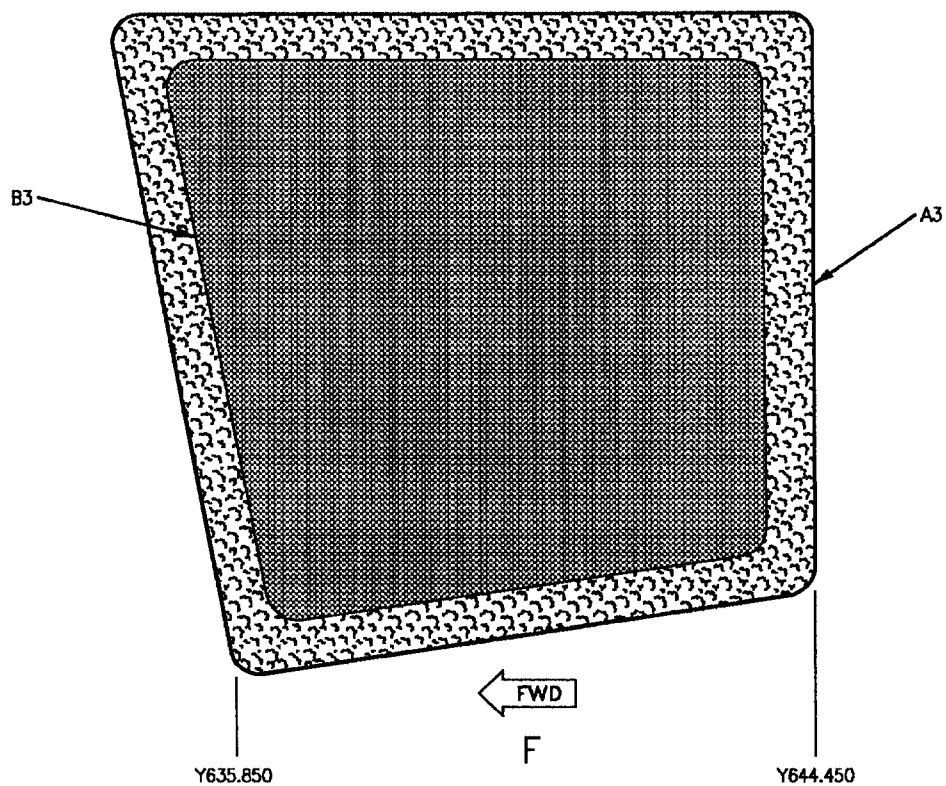
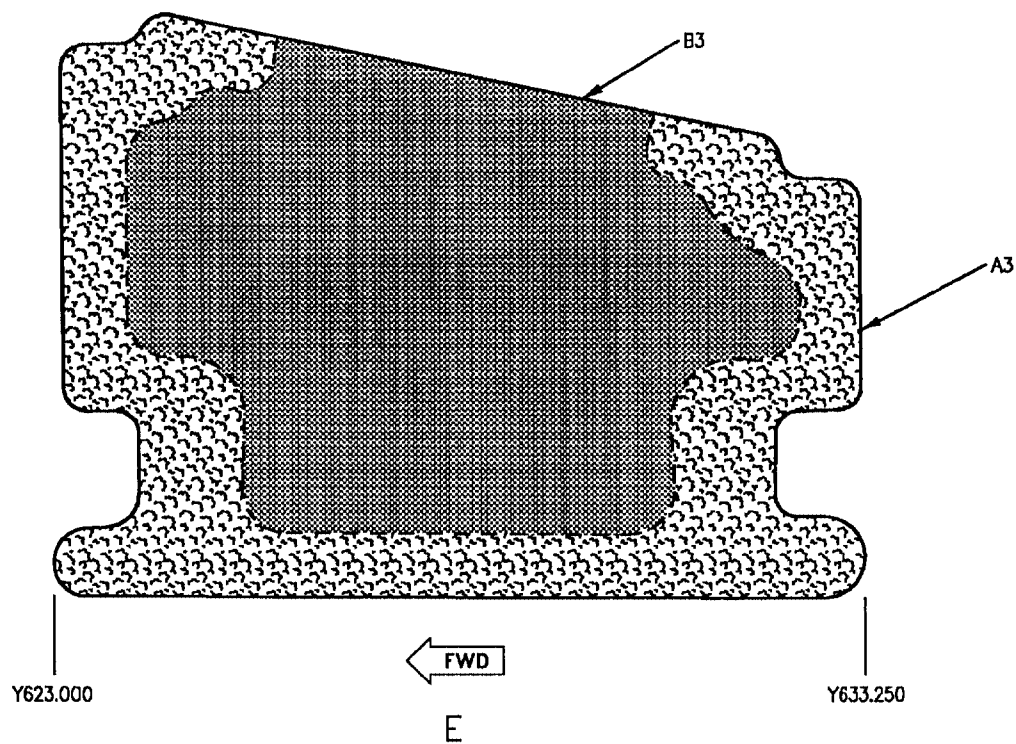


Figure 2. Repair Zones (Sheet 6)

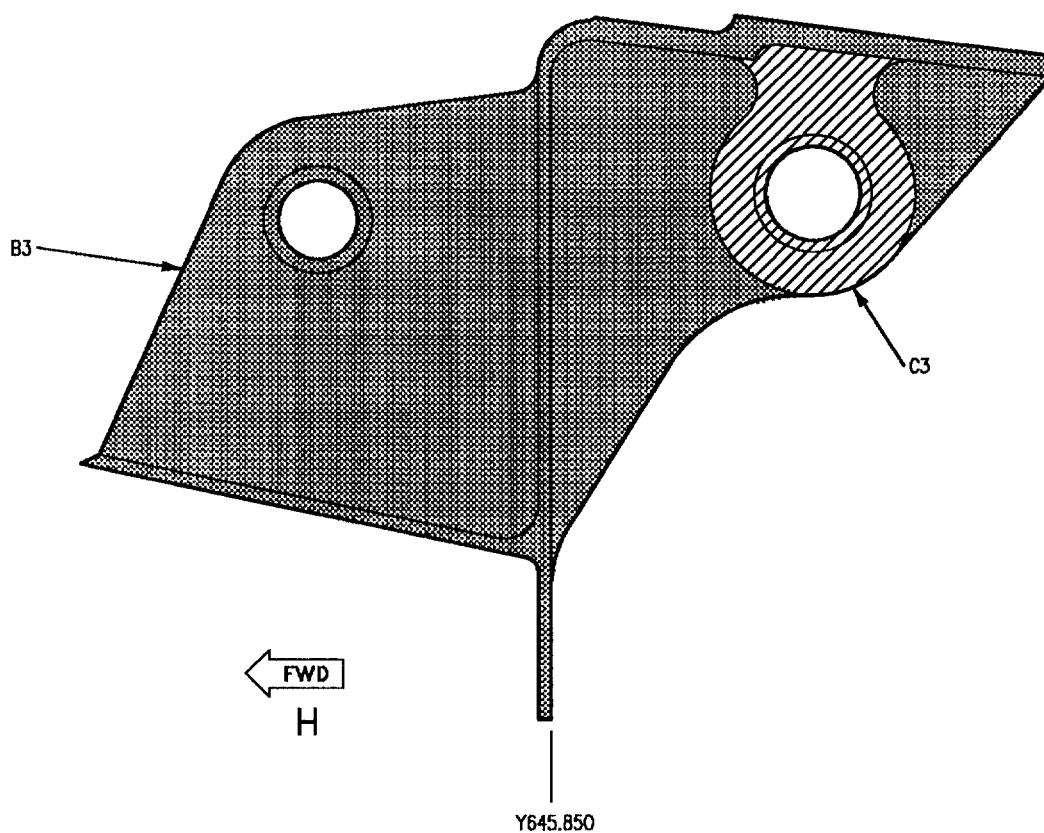
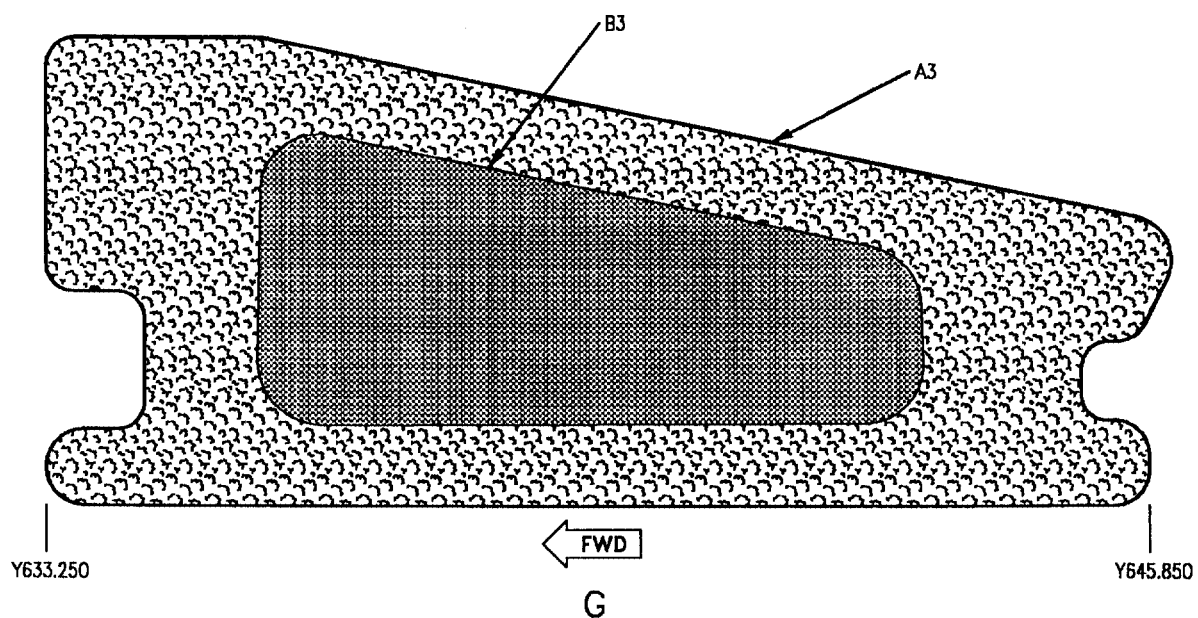


Figure 2. Repair Zones (Sheet 7)

ORGANIZATIONAL MAINTENANCE

STRUCTURE REPAIR

AFT FUSELAGE SEGMENT (KEEL) Y657.350 TO Y687.907

Reference Material

Structure Repair, Aft Fuselage	A1-F18A-SRM-240
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Fire and Thermal Barrier Coating	WP009 00
Aft Fuselage Finish System and Marking	WP036 00
Structure Repair, General Information	A1-F18AC-SRM-200
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Introduction	WP002 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Titanium Sheet, Free of Structure and Land Area	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Titanium Sheet Edge Repairs	WP035 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons System Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Record of Applicable Technical Directives

None

Support Equipment Required

None

Materials Required

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable

damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR-01-1A-509). The types of limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from the edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00). For firewall sealant, and fire and thermal barrier coating, see WP023 00. Preparation and application of firewall sealant (A1-F18AC-SRM-200, WP011 00). Preparation and application of fire and thermal barrier coating (A1-F18AC-SRM-500, WP009 00).

7. PERMANENT REPAIRS.

8. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum or titanium sheet as listed:

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

9. Cracks.

a. In repair zone A3, repair cracks free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Rout out crack.

(2) In repair zone A3, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A3, repair cracks across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair cracks to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zone A3, repair holes free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A3, repair holes across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair holes to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. Edge.

a. In repair zone A3, repair edge damage in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

(1) Cut out damage.

(2) Select and install repair patch as listed:

(a) Corner Damage to Lands.

(b) Corner Damage to Lands and Bays.

(c) Edge Damage to Lands.

(d) Edge Damage to Lands and Bays.

(e) Full Width Damage to End.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A3, repair edge damage to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

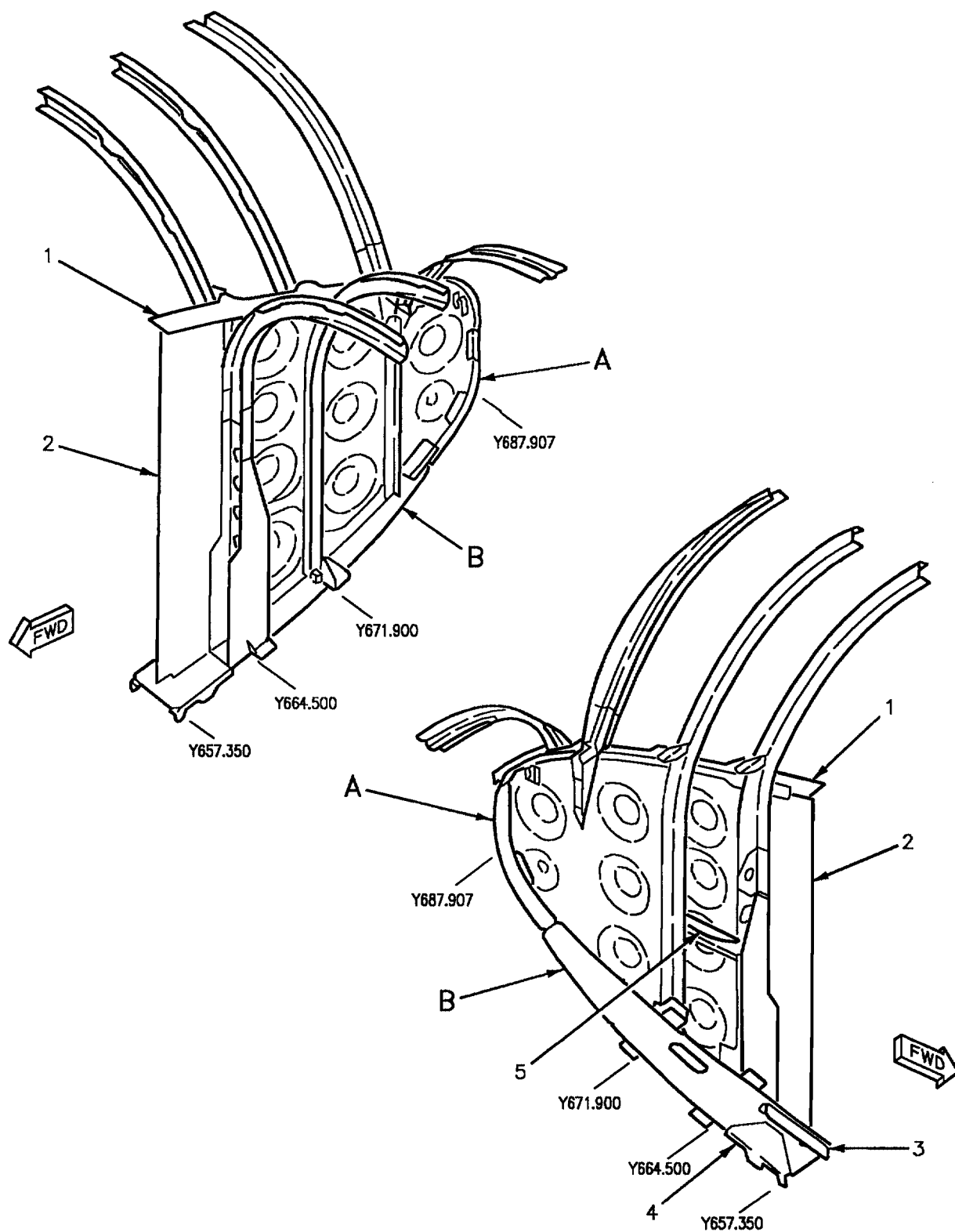
(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

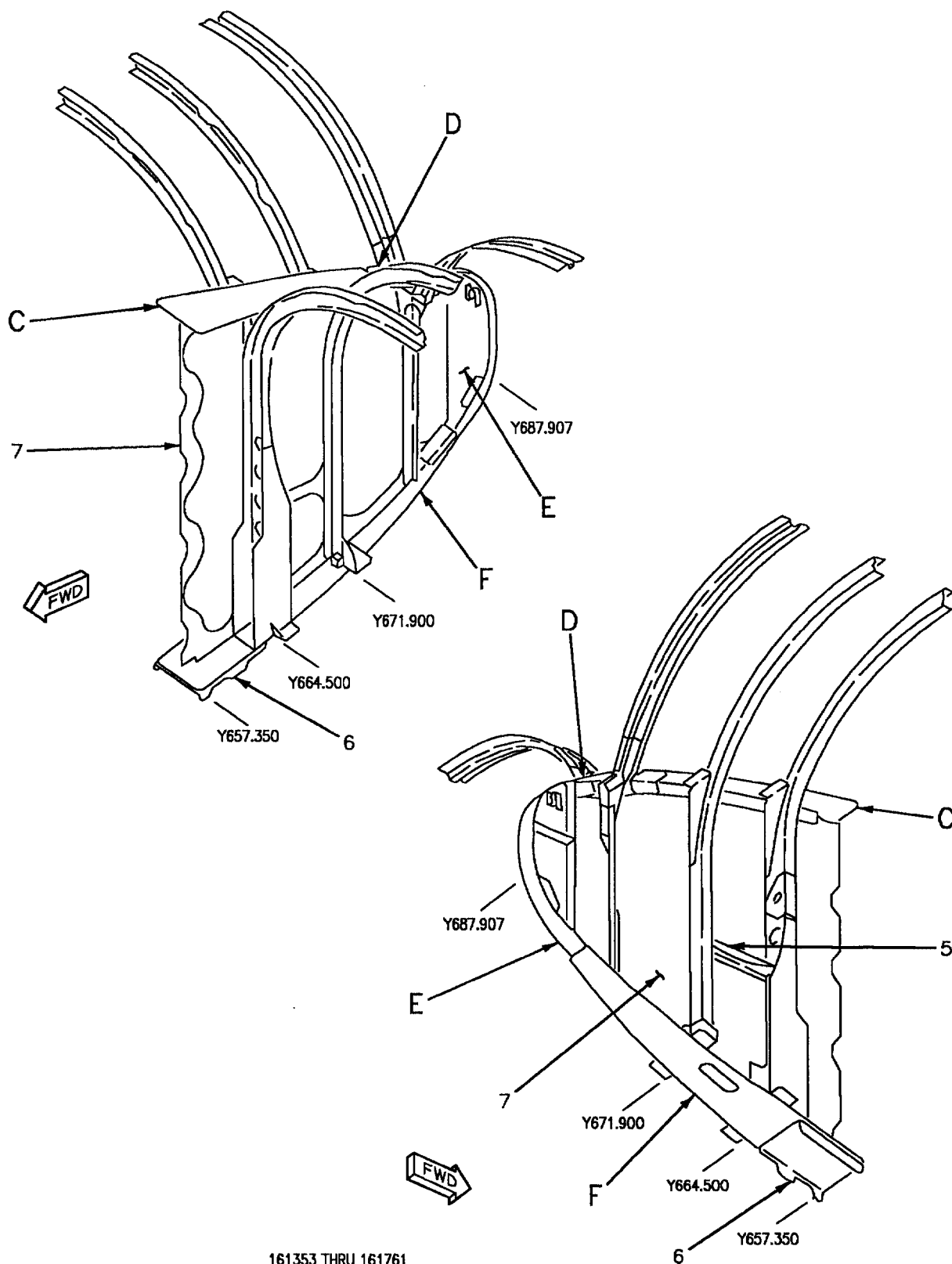
12. **Dents.** In repair zone A3, repair dents to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

a. Cut out damage.



161924 AND UP

Figure 1. Material Index (Sheet 1)



161353 THRU 161761

Figure 1. Material Index (Sheet 2)

01300102

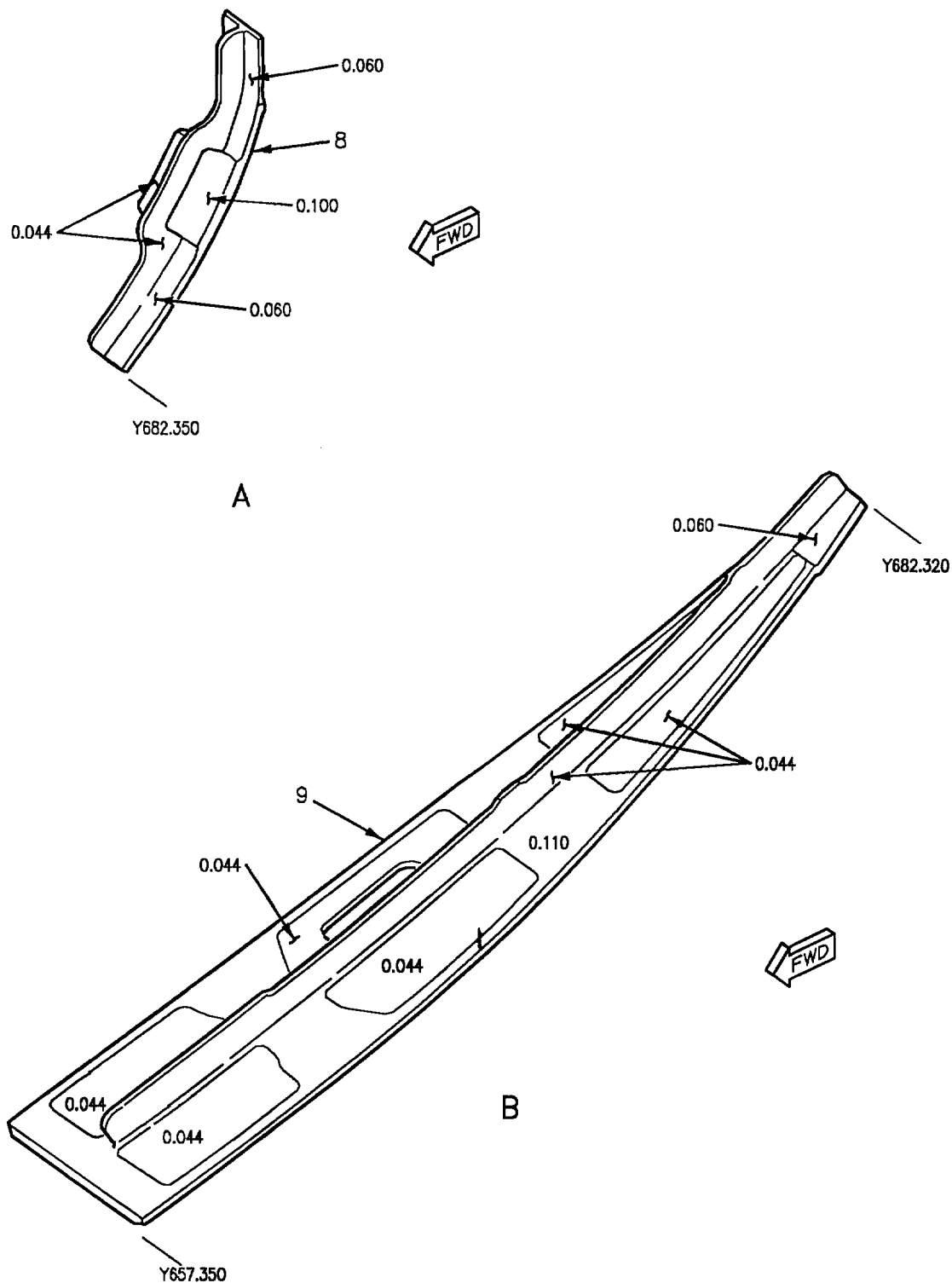


Figure 1. Material Index (Sheet 3)

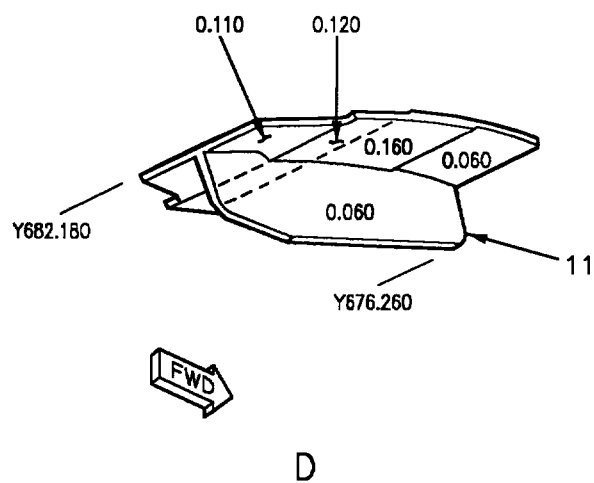
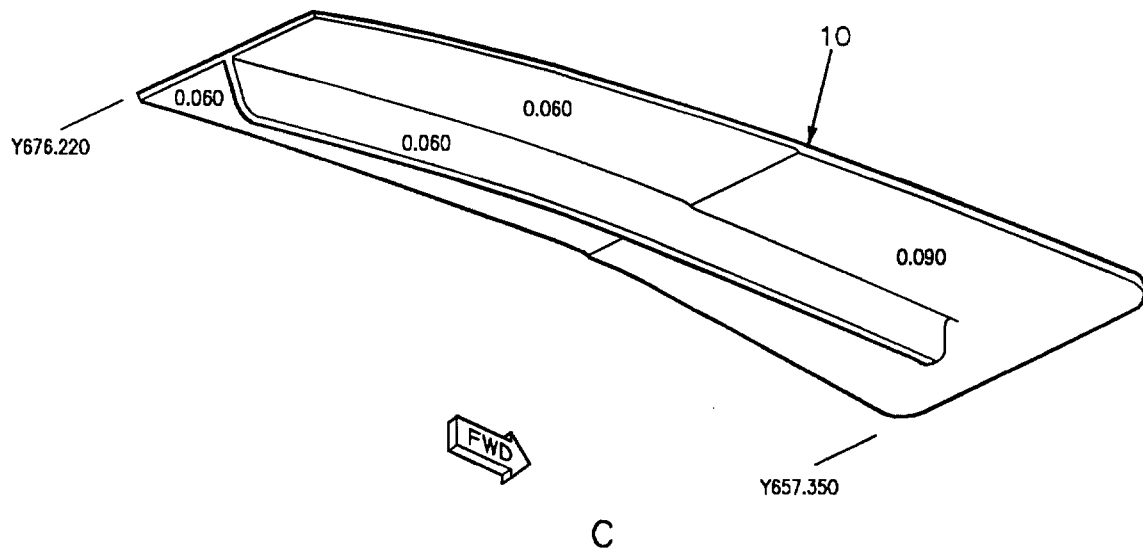


Figure 1. Material Index (Sheet 4)

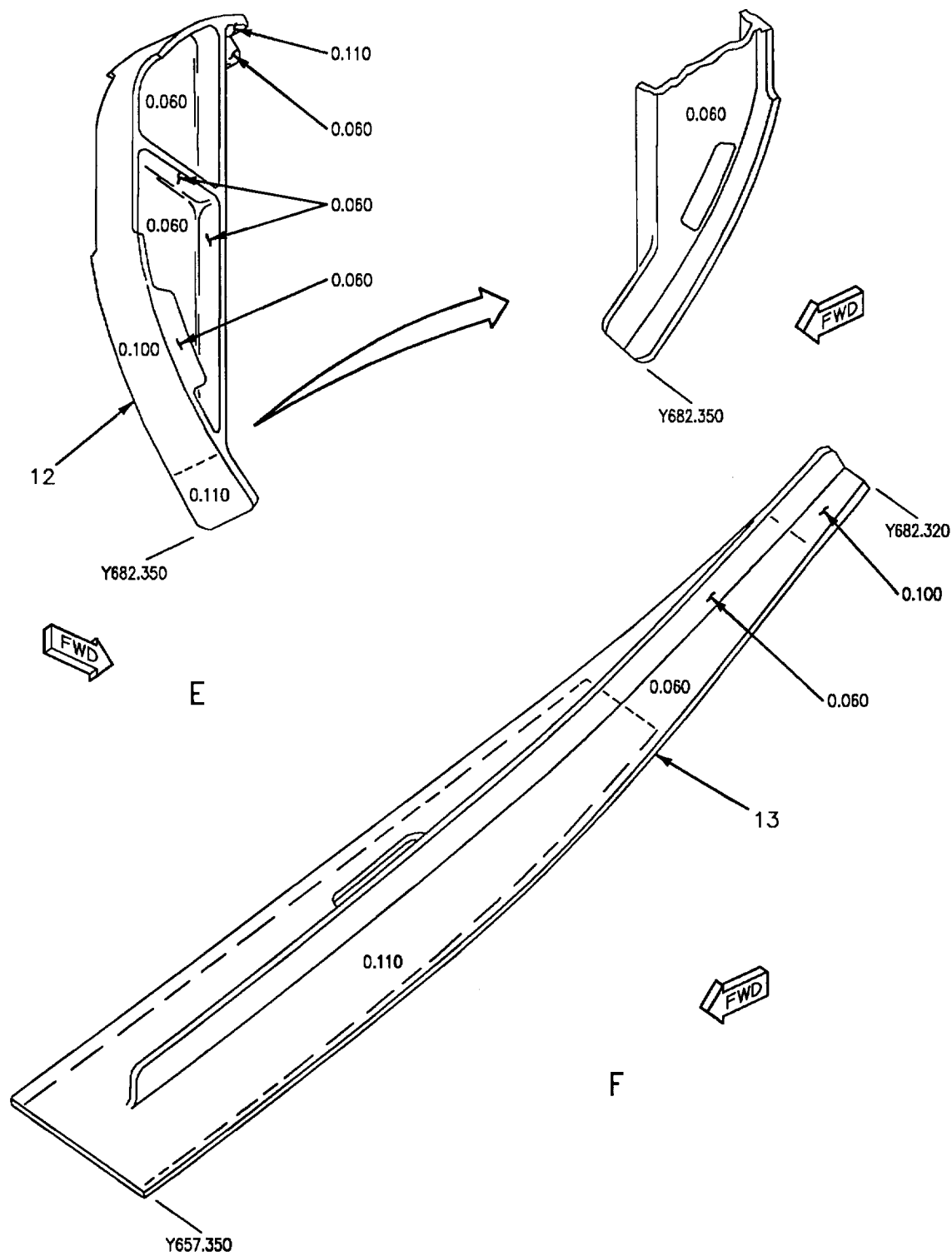


Figure 1. Material Index (Sheet 5)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1	<div>5</div> <div>6</div> <div>11</div>	Cap 74A333547-9001 74A333547-2005 74A333547-2007	0.040 Made From 1MT360A01-10065 Extr	6Al-4V Ti Anl
2	<div>7</div> <div>8</div> <div>11</div>	Heat Shield 74A333545-9001 74A333545-2007 74A333545-2009	<div>4</div> Sheet	6Al-4V Ti Anl
3	<div>3</div>	Bracket 74A333515-2007	0.063 Sheet	2024-T72 Al Aly
4	<div>9</div> <div>10</div>	Bracket 74A333515-2009 74A333515-2011	0.063 Sheet	2024-T72 Al Aly
5		Support 74A655634-2001	0.063 Sheet	7075-T62 Al Aly
6	<div>2</div>	Bracket 74A333515-2003	0.063 Sheet	2024-T72 Al Aly
7	<div>2</div>	Heat Shield 74A333545-2003	<div>1</div> Sheet	6Al-4V Ti Anl
8	<div>3</div>	Former 74A333523-2001	Machined Bar	6Al-4V Ti Anl
9	<div>3</div>	Cap 74A333546-2003	Made From 1MT360A01-10059 Extr	6Al-4V Ti Anl
10	<div>2</div>	Cap 74A333547-2001	Made From 1MT360A01-10059 Extr	6Al-4V Ti Anl
11	<div>2</div>	Cap 74A333509-2001	Machined Plate	2219-T851 Al Aly
12	<div>2</div>	Former 74A330595-2007	Machined Plate	2219-T851 Al Aly
13	<div>2</div>	Cap 74A333546-2001	Made From 1MT360A01-10059 Extr	6Al-4V Ti Anl
LEGEND <div>1</div> Lands are 0.040 thick and bays are 0.022 thick. <div>2</div> 161353 THRU 161761. <div>3</div> 161924 AND UP. <div>4</div> Bay Forward of Y664.5 is 0.025 thick, bay aft of Y664.5 is 0.018 thick.				

Figure 1. Material Index (Sheet 6)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
5		161927 THRU 161965.		
6		161924 THRU 161926, 161966 THRU 163169.		
7		161924 THRU 162431.		
8		162432 THRU 163169.		
9		161924 THRU 162398.		
10		162399 AND UP.		
11		163170 AND UP.		

Figure 1. Material Index (Sheet 7)

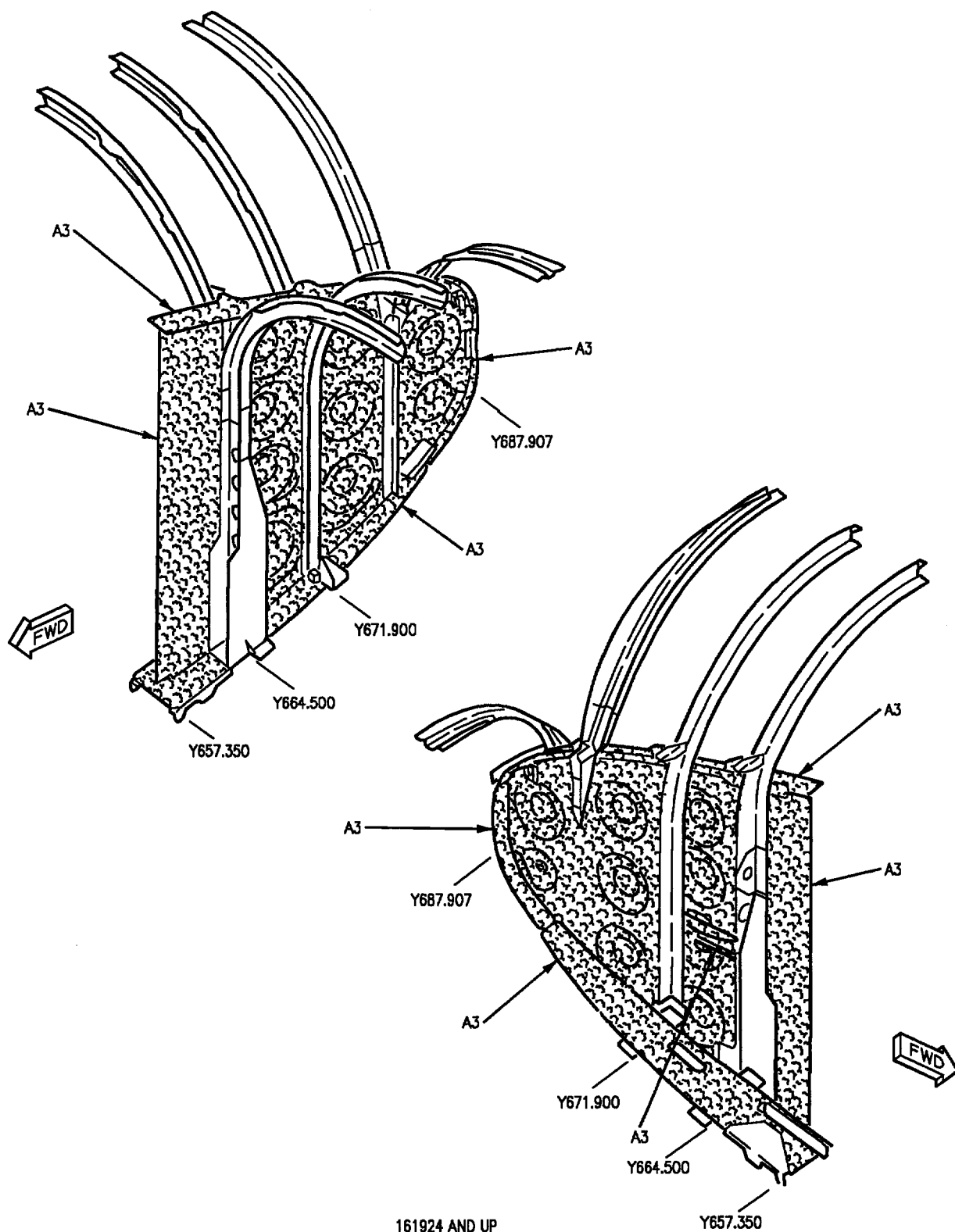
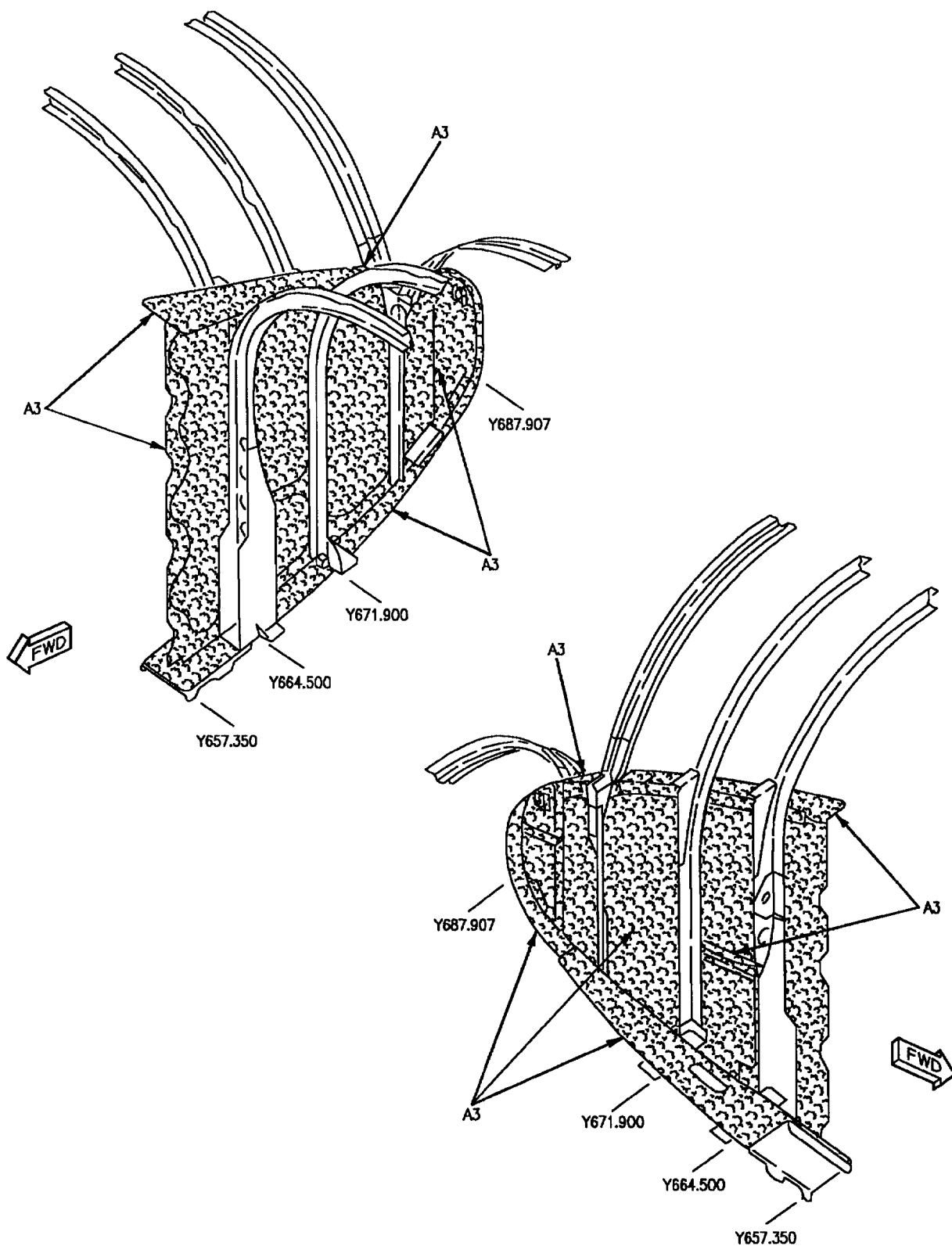


Figure 2. Repair Zones (Sheet 1)



161353 THRU 161761

Figure 2. Repair Zones (Sheet 2)

ORGANIZATIONAL MAINTENANCE**STRUCTURE REPAIR****AFT FUSELAGE ENGINE BAY HEAT SHIELD**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Fire and Thermal Barrier Coating	WP009 00
Form In Place Sealing	WP010 00
Aft Fuselage Finish System and Markings	WP036 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Fuselage Section - Aft, Assy of	FIG 003 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Titanium Sheet, Free of Structure and Land Areas	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Titanium Sheet Edge Repairs	WP035 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 55	1 Apr 88	Left and Right Vertical Stabilizers, Strengthening of, (ECP MDA-F/A-18-00205R1)	15 Feb 85	-
F/A-18 IAFC 170	-	Outboard Stub Former Moldline Flange (ECP MDA-F/A-18-00303)	1 Feb 92	-

Support Equipment Required

None

Materials Required

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00). For firewall sealant, and fire and thermal barrier coating, see WP023 00. Preparation and application of firewall sealant (A1-F18AC-SRM-200, WP011 00). Preparation and application of fire and thermal barrier coating (A1-F18AC-SRM-500, WP009 00).

7. PERMANENT REPAIRS.

8. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair titanium sheet as listed:

a Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zone A1, repair cracks free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Stop drill ends of crack.

(2) In repair zone A1, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A1, repair cracks across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A1, repair cracks to titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zone A1, repair holes free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A1, repair holes across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zone A1, repair edge damage in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. **Dents.**

a. In repair zone A1, repair dents free of structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone A1, repair dents across structure or land areas in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zone A1, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. **REPLACEMENT.**

14. All covers are interchangeable, no drilling or trimming required. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).

15. **COVER (DOOR EBL).** See figure 3 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 003 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

16. **COVER (DOOR EBK).** See figure 4 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 003 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

17. **COVER (DOOR EBJ).** See figure 5 for attaching hardware. For fasteners (A1-F18AC-SRM-440, FIG 003 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

18. **WEB 74A330741-2009, 2010, 2023, 2024, 9003 AND 9004.** See figure 6 for fasteners.

Table 1. Negligible Damage Limits

















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Angle Zone A1	0.050	0.002	0.002	100%		NA
Fig 1 (2)	Web Zone A1	0.050	0.002	0.002	100%	 0.013	NA
	Zone A1	0.025	0.001	0.001	100%		NA
Fig 1 (3)	Web Zone A1	0.050	0.002	0.002	100%	 	NA
	Zone A1	0.025	0.001	0.001	100%		NA
Fig 1 (4)	Shield Zone A1	0.016	0.001	0.001	100%		NA
Fig 1 (6)	Shield Zone A1	0.016	0.001	0.001	100%		NA
Fig 1 (8)	Shield Zone A1	0.016	0.001	0.001	100%		NA
Fig 1 (10)	Shield Zone A1	0.020	0.001	0.001	100%		NA
Fig 1 (15)	Shield Zone A1	0.016	0.001	0.001	100%		NA
Fig 1 (16)	Cover Zone A1	0.025	0.001	0.001	100%		NA
Fig 1 (17)	Zee Zone A1	0.020	0.001	0.001	100%	 	NA
	Zone A1	0.063	0.002	0.002	100%		NA
Fig 1 (18)	Web Zone A1	0.063	0.002	0.002	100%	 0.025	NA
	Zone A1	0.050	0.002	0.002	100%		NA
Fig 1 (19)	Door EBJ Zone A1	0.040	0.002	0.002	100%	 0.008 0.012	NA
	Zone A1	0.016	0.001	0.001	100%		NA
	Zone A1	0.024	0.001	0.001	100%		NA
Fig 1 (20)	Door EBK Zone A1	0.040	0.002	0.002	100%	 0.008 0.012	NA
	Zone A1	0.016	0.001	0.001	100%		NA
	Zone A1	0.024	0.001	0.001	100%		NA
Fig 1 (21)	Door EBL Zone A1	0.040	0.002	0.002	100%	 0.008 0.012	NA
	Zone A1	0.016	0.001	0.001	100%		NA
	Zone A1	0.024	0.001	0.001	100%		NA

Table 1. Negligible Damage Limits (Continued)



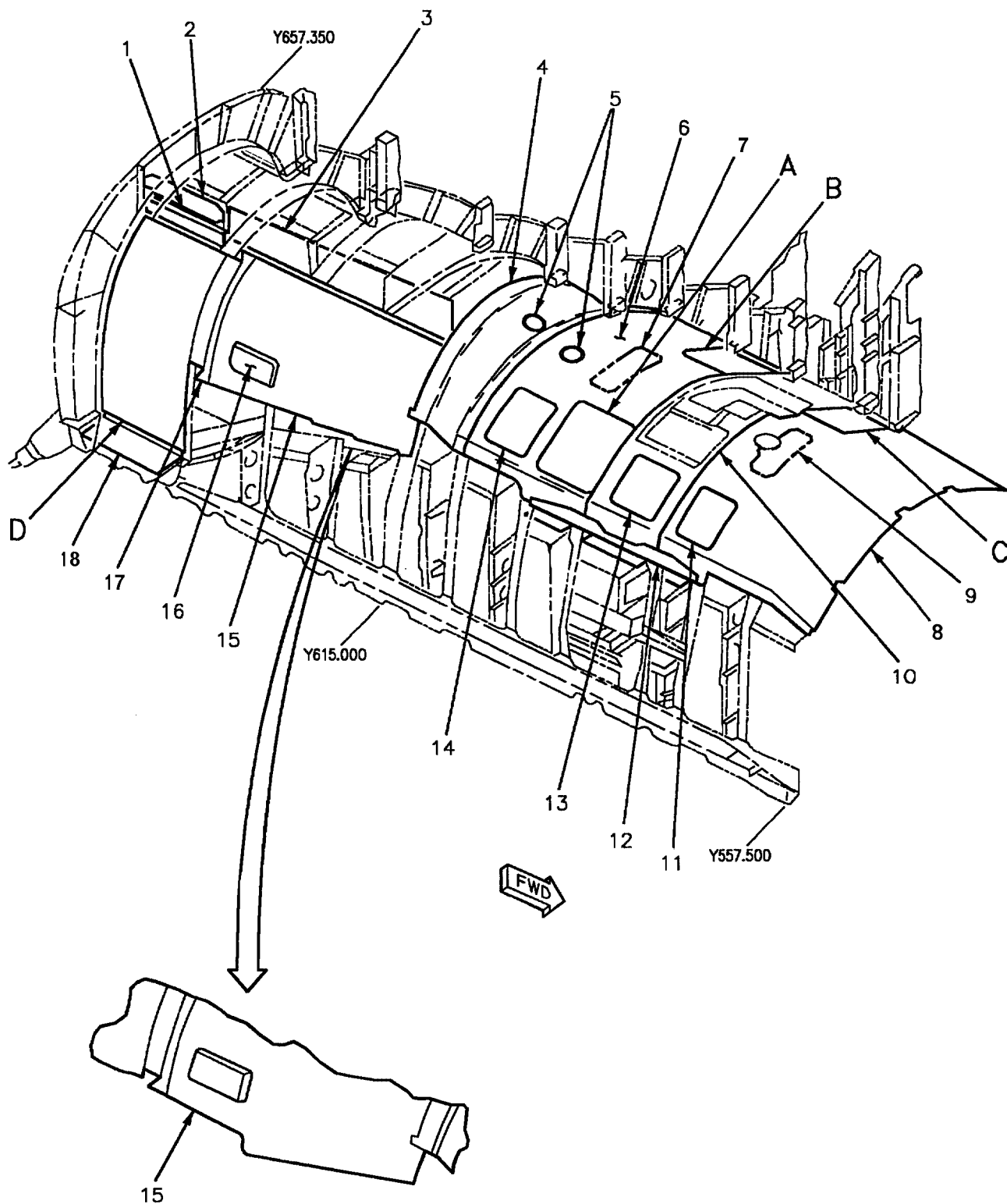
Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (22)	Web Zone A1	0.040	0.002	0.002	100%		NA
NOTE  None allowed.							

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Angle Zone A1	0.050	0.010	0.010	100%	0.010	100%
Fig 1 (2)	Web Zone A1 Zone A1	0.050	0.010	0.010	100%	0.010	100%
		0.025	0.005	0.005	100%	0.005	100%
Fig 1 (3)	Web Zone A1 Zone A1	0.050	0.010	0.010	100%	0.010	100%
		0.025	0.005	0.005	100%	0.005	100%
Fig 1 (4)	Shield Zone A1	0.016	0.003	0.003	100%	0.003	100%
Fig 1 (6)	Shield Zone A1	0.016	0.003	0.003	100%	0.003	100%
Fig 1 (8)	Shield Zone A1	0.016	0.003	0.003	100%	0.003	100%
Fig 1 (10)	Shield Zone A1	0.020	0.003	0.003	100%	0.003	100%
Fig 1 (15)	Shield Zone A1	0.016	0.003	0.003	100%	0.003	100%
Fig 1 (16)	Cover Zone A1	0.025	0.005	0.005	100%	0.005	100%
Fig 1 (17)	Zee Zone A1 Zone A1	0.020	0.004	0.004	100%	0.004	100%
		0.063	0.004	0.004	100%	0.004	100%
Fig 1 (18)	Web Zone A1 Zone A1	0.063	0.013	0.013	100%	0.013	100%
		0.050	0.010	0.010	100%	0.010	100%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (19)	Door EBJ	0.040	0.008	0.008	100%	0.008	100%
	Zone A1	0.016	0.003	0.003	100%	0.003	100%
	Zone A1	0.024	0.005	0.005	100%	0.005	100%
Fig 1 (20)	Door EBK	0.040	0.008	0.008	100%	0.008	100%
	Zone A1	0.016	0.003	0.003	100%	0.003	100%
	Zone A1	0.024	0.005	0.005	100%	0.005	100%
Fig 1 (21)	Door EBL	0.040	0.008	0.008	100%	0.008	100%
	Zone A1	0.016	0.003	0.003	100%	0.003	100%
	Zone A1	0.024	0.005	0.005	100%	0.005	100%
Fig 1 (22)	Web Zone A1	0.040	0.008	0.008	100%	0.008	100%



161353 THRU 161761

Figure 1. Material Index (Sheet 1)

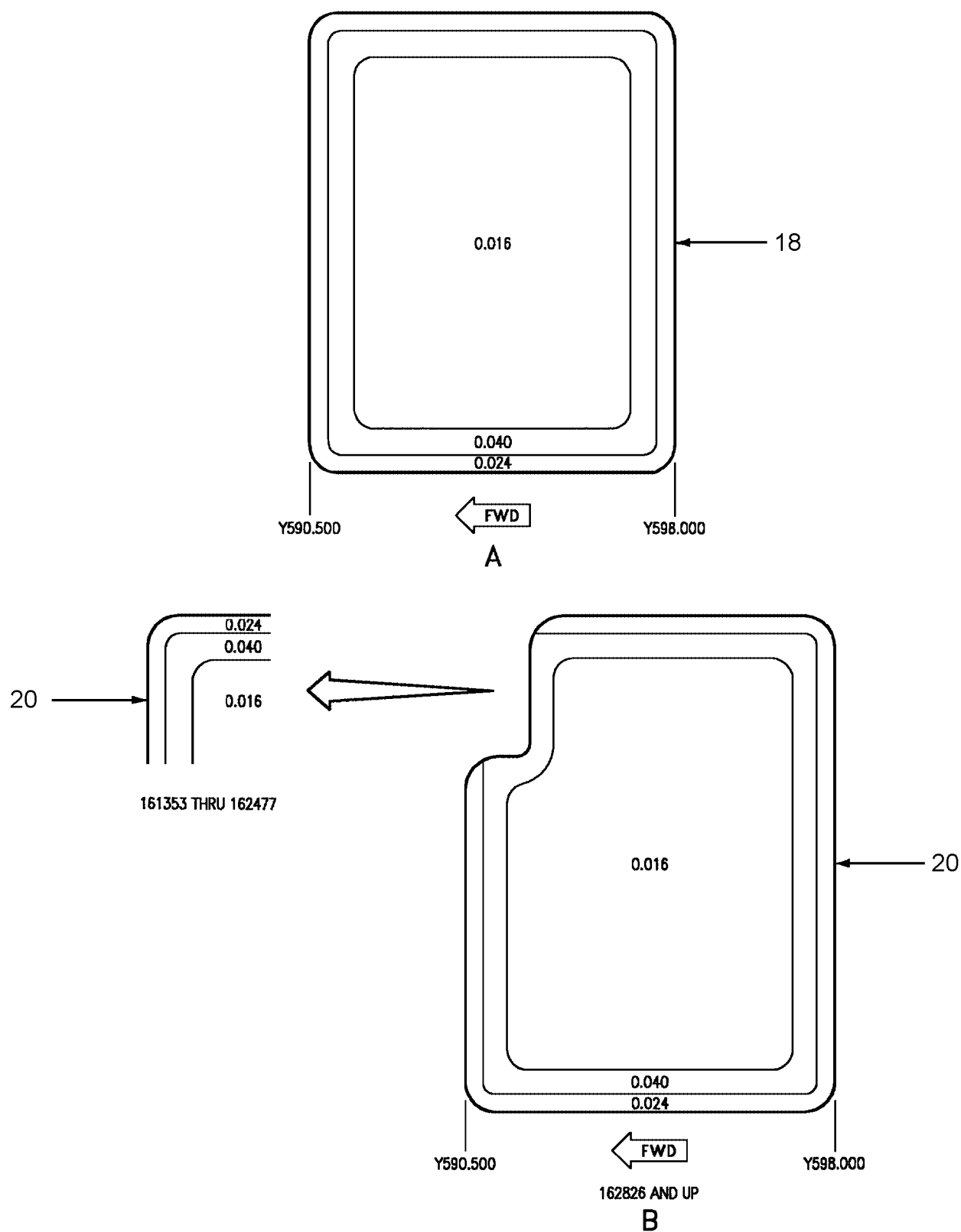


Figure 1. Material Index (Sheet 2)

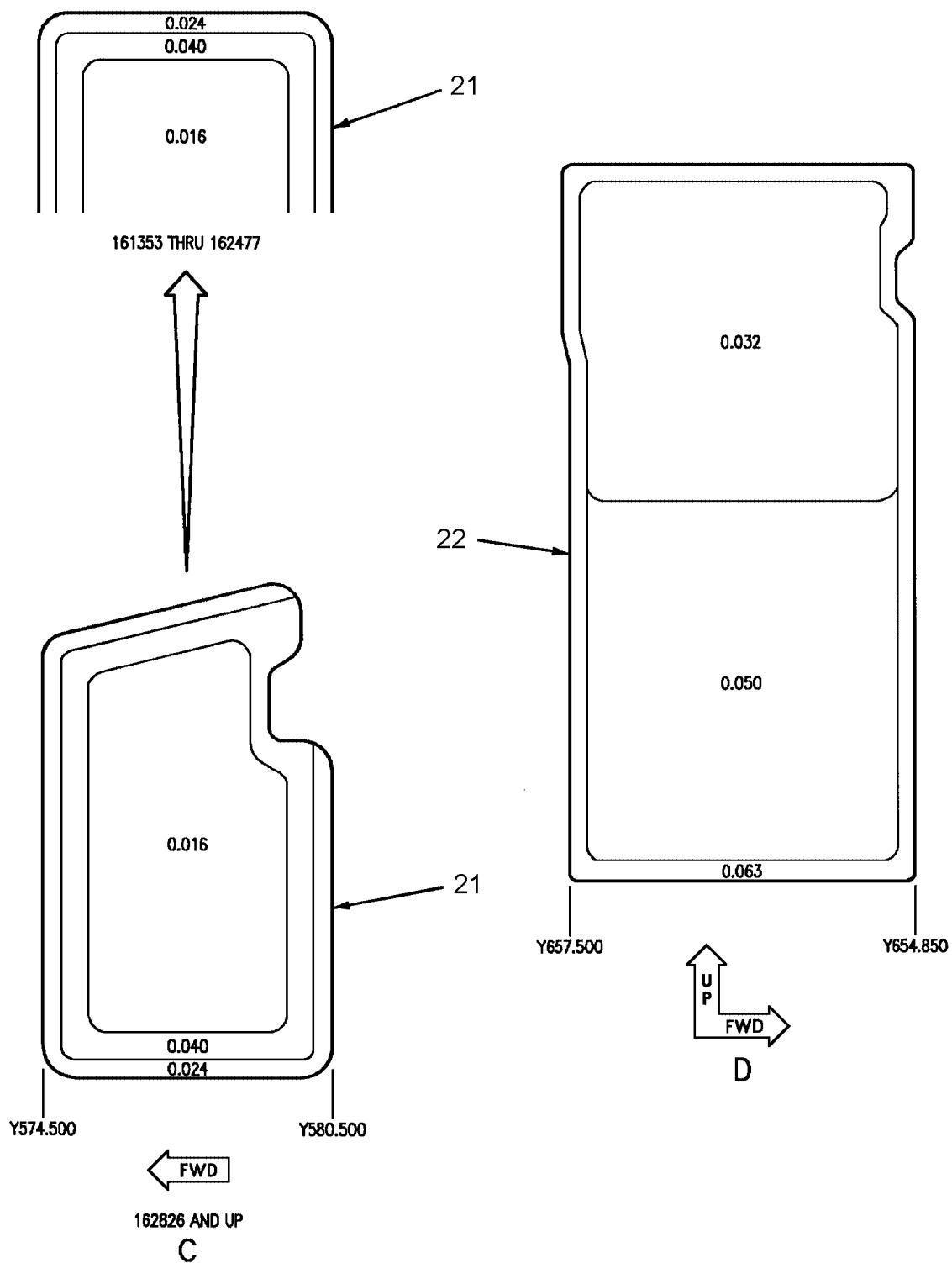


Figure 1. Material Index (Sheet 3)
































Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Angle 74A331109-2017	0.050 Sheet	6Al-4V Ti Anl
2		Web 74A331109-2011	 Sheet	6Al-4V Ti Anl
3	   	Web 74A331109-9009, -9011 74A331109-2027, -2029 74A331109-9021, -9023 74A331109-2041, -2042	 Sheet	6Al-4V Ti Anl
4	  	Heat Shield 74A330823-2001, -2002 74A330823-9001, -9002 74A330823-2003, -2004	0.016 Sheet 0.032 Sheet	6Al-4V Ti Anl
5		Cove 74A330810-1005	Assembly	321 Cres
6 L R L R L L R L R R	           	Heat Shield 74A330816-9003 74A330816-9004 74A330816-2003 74A330816-2004 74A330816-9005 74A330816-9006 74A330816-2005 74A330816-2006 74A330816-9007 74R330009-2009, -2010 74A093117-2009, -2010 74A330816-2007, -2008	0.016 Sheet	6Al-4V Ti Anl
7		Plate 74A330816-2013	0.016 Sheet	6Al-4V Ti Anl
8	      	Heat Shield 74A330826-2009, -2010 74A330826-2015, -2016 74R330009-2005, -2006 74A093117-2005, -2006 74A330826-2017, -2018 74A330826-2029, -2030 74A330826-2037, -2038	0.016 Sheet	6Al-4V Ti Anl
9	 	Plate 74A330826-2021, -2025 74A330826-9007, -9008	0.016 Sheet	6Al-4V Ti Anl

Figure 1. Material Index (Sheet 4)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
10	<div>40</div> <div>6</div> <div>27</div> <div>38</div> <div>41</div> <div>42</div> <div>44</div>	Heat Shield 74A330824-9007, -9008 74A330824-2007 74A330824-2008 74R330009-2007, -2008 74A093117-2007, -2008 74A093117-2007, -2008 74A330824-2011, -2012	0.032 Sheet 0.032 Sheet 0.032 Sheet 0.040 Sheet 0.040 Sheet	6Al-4V Ti Anl
11	<div>35</div>	Cover 74A330816-2027	0.016 Sheet	6Al-4V Ti Anl
12	<div>43</div>	Intercostal 74A331172-2003, -2004	0.125 Sheet	6Al-4V Ti Anl
13	<div>35</div>	Cover 74A330816-2025	0.016 Sheet	6Al-4V Ti Anl
14	<div>36</div>	Cover 74A330816-2023	0.016 Sheet	6Al-4V Ti Anl
15	<div>20</div> <div>28</div> <div>19</div> <div>37</div> <div>49</div>	Heat Shield 74A331825-2007 74A331825-2011 74A331825-9011 74A331825-2017 74A331825-2019	0.016 Sheet	6Al-4V Ti Anl
16	<div>20</div> <div>21</div>	Cover 74A331825-2003 74A331825-2013, -2014	0.025 Sheet	6Al-4V Ti Anl
17	<div>5</div> <div>23</div> <div>32</div> <div>33</div> <div>34</div>	Zee 74A330844-2017, -2018 74A330844-2017, -2018 74A330844-9001, -9002 74A330844-9007, -9008 74A330844-2027, -2028	0.020 Sheet 0.063 Sheet	6Al-4V Ti Anl
18	<div>16</div> <div>17</div> <div>18</div> <div>21</div>	Web 74A330741-2013, -2014 74A330741-9001, -9002 74A330741-2021, -2022 74A330741-2025, -2026	<div>3</div> Sheet 0.063 Sheet	6Al-4V Ti Anl
19		Cover (Door EBJ) 74A330825-2005, -2006	<div>4</div> Sheet	6Al-4V Ti Anl
20	<div>43</div> <div>44</div>	Cover (Door EBK) 74A330825-2003, -2004 74A330825-2015, -2016	<div>4</div> Sheet	6Al-4V Ti Anl

Figure 1. Material Index (Sheet 5)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
21	<div>43</div> <div>44</div>	Cover (Door EBL) 74A330825-2001, -2002 74A330825-2013, -2014	<div>4</div> Sheet	6Al-4V Ti Anl
22	<div>20</div> <div>47</div> <div>48</div>	Web 74A330741-2009, -2010 74A330741-2023, -2024 74A330741-9003, -9004	0.040 Sheet <div>8</div> Sheet	6Al-4V Ti Anl

LEGEND

- 1

 Land is 0.050 thick, bay is 0.025 thick.
- 2

 161525 THRU 161968, 161970 THRU 161977, 161981 BEFORE F/A-18 AFC 55.
- 3

 Land is 0.063 thick, bay is 0.050 thick.
- 4

 0.040 stock size machined as shown.
- 5

 161353 THRU 161361.
- 6

 161362 THRU 162402 BEFORE F/A-18 AFC 55.
- 7

 161353 THRU 161521.
- 8

 0.063 stock size machined as shown.
- 9

 161353 THRU 161524 BEFORE F/A-18 AFC 55.
- 10

 161522 THRU 161705, 161745 THRU 163145.
- 11

 161706 THRU 161744.
- 12

 161353 THRU 161710 BEFORE F/A-18 AFC 55.
- 13

 161353 THRU 161719 BEFORE F/A-18 AFC 55.
- 14

 161711 THRU 161723 BEFORE F/A-18 AFC 55.
- 15

 161720 THRU 161723 BEFORE F/A-18 AFC 55.
- 16

 161353 THRU 161359.
- 17

 161360 THRU 161717.
- 18

 161718 THRU 161761.
- 19

 161925 THRU 161987.
- 20

 161353 THRU 161761.
- 21

 161924 AND UP.
- 22

 161724 THRU 161740 BEFORE F/A-18 AFC 55.
- 23

 161362 THRU 161761.
- 24

 161724 THRU 161760 BEFORE F/A-18 AFC 55.
- 25

 161741 THRU 161968, 161970 THRU 161977, 161981 BEFORE F/A-18 AFC 55.
- 26

 161761 THRU 161945, 161959 THRU 161968, 161970 THRU 161977, 161981 BEFORE F/A-18 AFC 55.
- 27

 161362 THRU 162403 BEFORE F/A-18 AFC 55.
- 28

 161924.
- 29

 161353 THRU 161925.
- 30

 161926 THRU 162477.
- 31

 161946 THRU 161958 BEFORE F/A-18 AFC 55.
- 32

 161924 THRU 161961, 161969 THRU 162399.
- 33

 161962 THRU 161968.
- 34

 162400 AND UP.
- 35

 161969, 161978 THRU 161980, 161982 THRU 162477; ALSO 161353 THRU 161968, 161970 THRU 161977, 161981 AFTER F/A-18 AFC 55.
- 36

 162446 AND UP; ALSO 161353 THRU 162445 AFTER F/A-18 IAFC 170.

Figure 1. Material Index (Sheet 6)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
37		162394 THRU 163164.		
38		161353 THRU 161968, 161970 THRU 161977, 161981 AFTER F/A-18 AFC 55.		
39		161969, 161978 THRU 161980, 161982 THRU 162477.		
40		161353 THRU 161361 BEFORE F/A-18 AFC 55.		
41		161969, 161978 THRU 161980, 161982 THRU 162403.		
42		162404 THRU 162477.		
43		161353 THRU 162477.		
44		162826 AND UP.		
45		162835 THRU 163123.		
46		162826 THRU 162834.		
47		161924 THRU 163119.		
48		163120 AND UP.		
49		163165 AND UP.		
50		163146 AND UP.		
51		163124 AND UP.		
52		162826 THRU 163108.		
53		163109 AND UP.		

Figure 1. Material Index (Sheet 7)

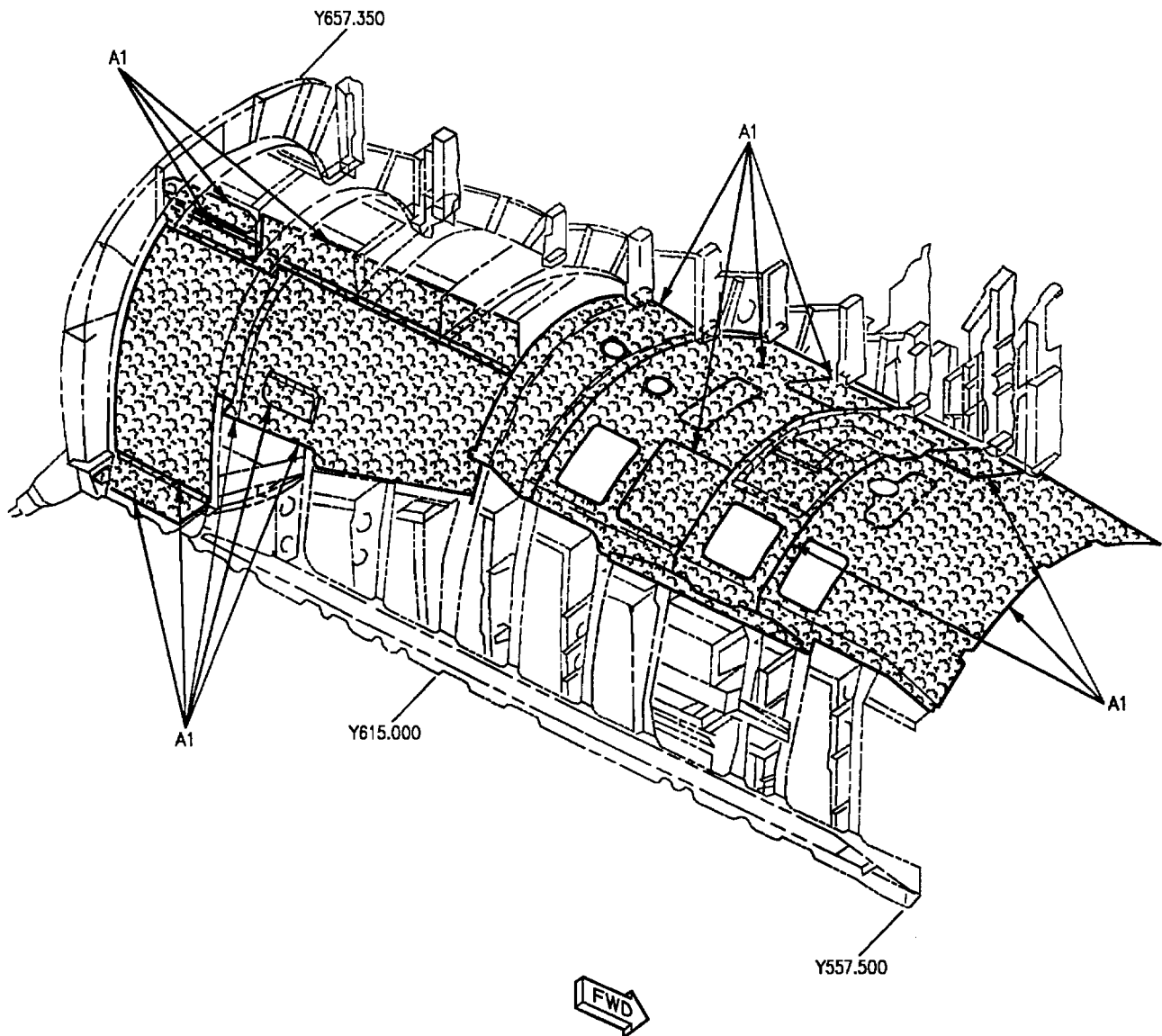


Figure 2. Repair Zones (Sheet 1)

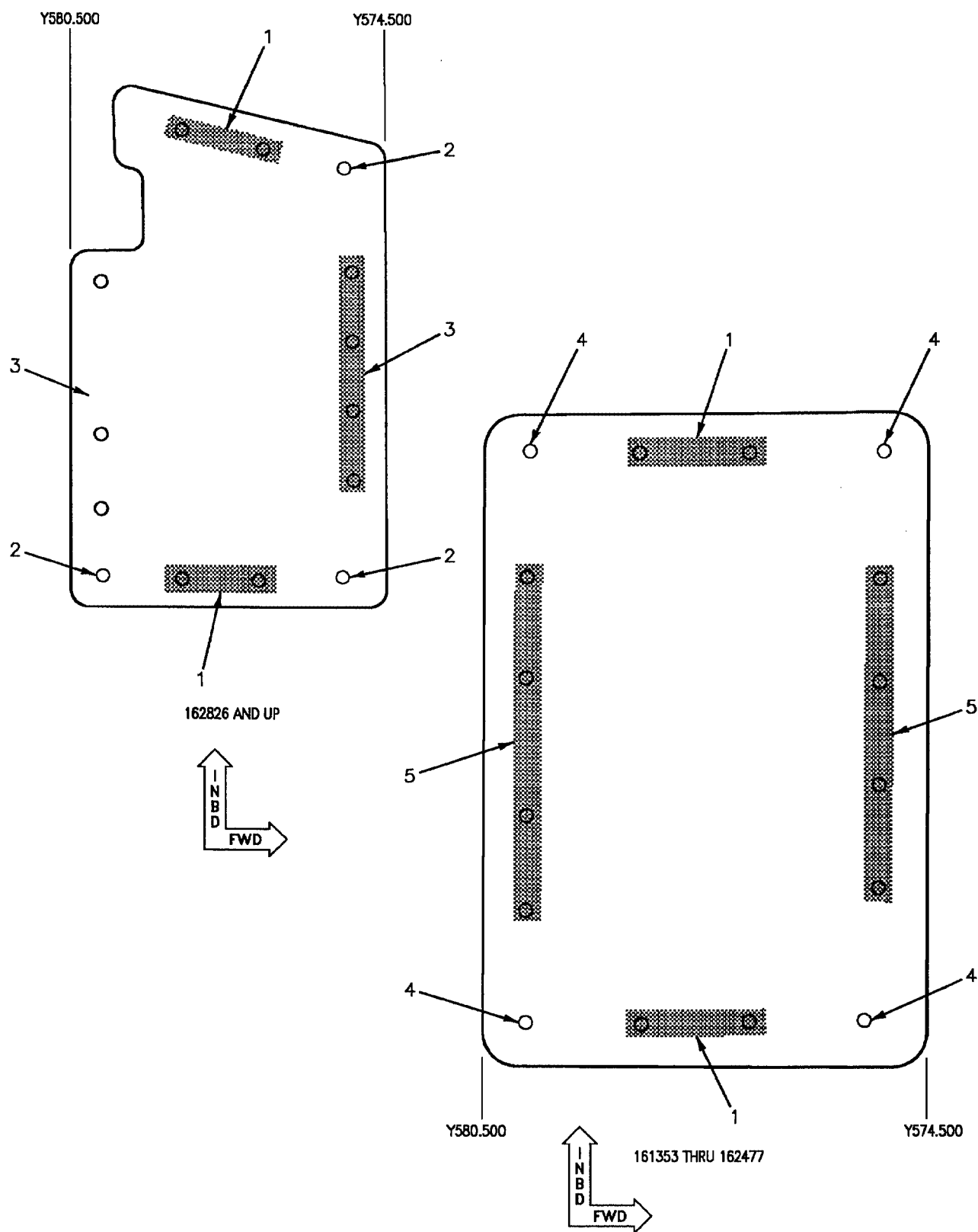


Figure 3. Cover, (Door EBL) Replacement (Sheet 1)













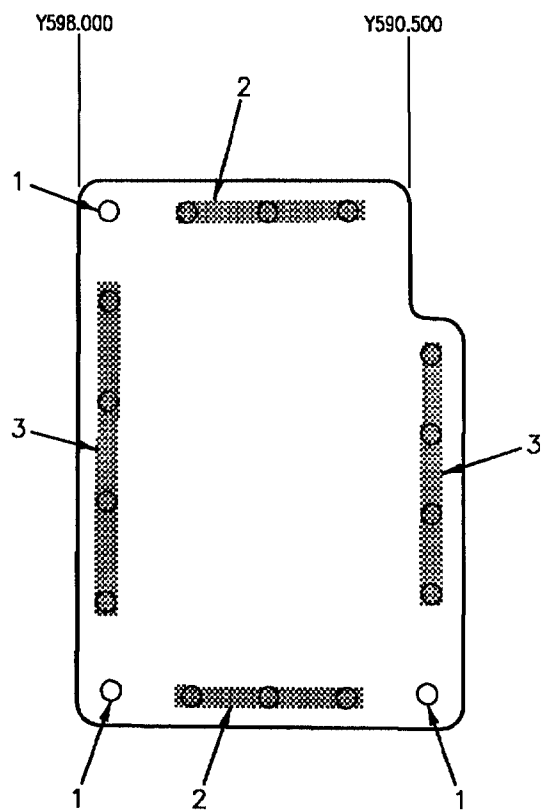
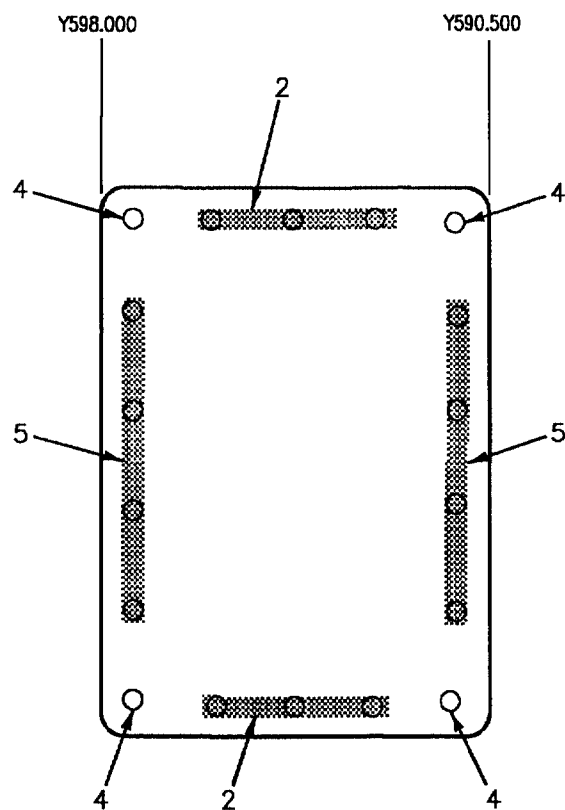
Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F49249E3-6
2			Plate Nut 	F50403-3-4
3			Plate Nut 	F49249E3-5
4			Plate Nut  Shim	MS21070L3 NAS1195D3WH
5			Plate Nut 	F49249E3-4
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1910 +0.0060 -0.0000.</p> <p> Attached with NAS1097AD3 rivets, length determined on installation.</p>				

Figure 3. Cover, (Door EBL) Replacement (Sheet 2)



162826 AND UP



161353 THRU 162477

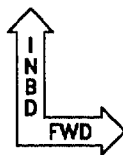


Figure 4. Cover, (Door EBK) Replacement (Sheet 1)













Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	F50403-3-4
2			Plate Nut 	F49249E3-6
3			Plate Nut 	F49249E3-5
4			Plate Nut  Shim	MS21070L3 NAS1195D3WH
5			Plate Nut 	F49249E3-4
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1910 +0.0060 -0.0000.</p> <p> Attached with NAS1097AD3 rivets, length determined on installation.</p>				

Figure 4. Cover, (Door EBK) Replacement (Sheet 2)

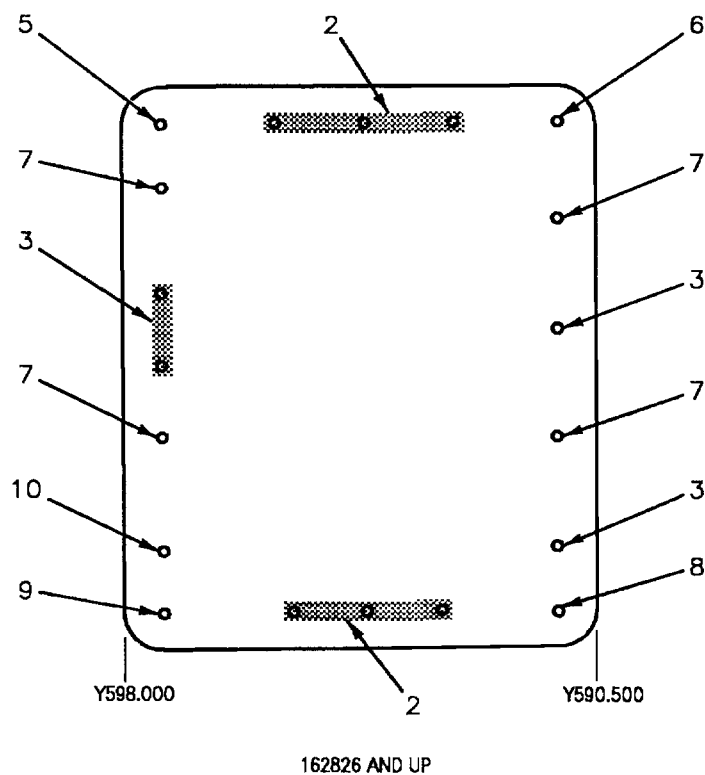
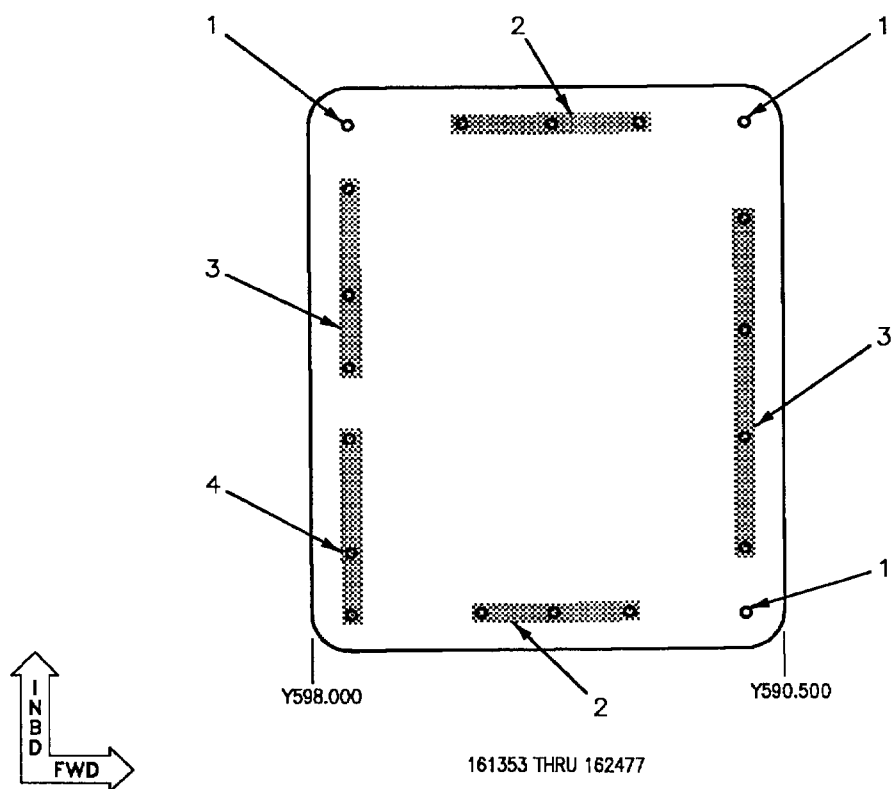


Figure 5. Cover, (Door EBL) Replacement (Sheet 1)

Idx No.	Eft		Nomenclature	Part Number
1	<div>3</div> <div>4</div> <div>5</div> <div>6</div>	<div>1</div> <div>1</div> <div>1</div>	Plate Nut <div>2</div> Plate Nut <div>2</div> Plate Nut <div>2</div> Shim	MS21070L3 MS21076L3 MF52099-3
2		<div>1</div>	Plate Nut <div>2</div>	F49249E3-6
3		<div>1</div>	Plate Nut <div>2</div>	F49249E3-4
4	<div>3</div> <div>4</div> <div>5</div>	<div>1</div> <div>1</div> <div>1</div>	Plate Nut <div>2</div> Plate Nut <div>2</div> Plate Nut <div>2</div>	MS21070L3 MS21076L3 MF52099-3
5	<div>7</div>	<div>1</div> <div>1</div> <div>1</div>	Plate Nut <div>2</div> Shim Shim	MF52100-3 4M296D3H 4M296D3M
6	<div>7</div>	<div>1</div> <div>8</div>	Plate Nut <div>2</div> Shim	MF52100-3 4M296D3H
7	<div>7</div>	<div>1</div>	Plate Nut <div>2</div>	F29339-01-3-2
8	<div>7</div>	<div>1</div>	Plate Nut <div>2</div> Shim Shim	MF52100-3 4M296D3H 4M296D3L
9	<div>7</div>	<div>1</div>	Plate Nut <div>2</div>	MF52100-3
10	<div>7</div>	<div>1</div>	Plate Nut <div>2</div> Shim Shim	MF52100-3 4M296D3M 4M296D3L
LEGEND <div>1</div> Hole diameter is 0.1910 +0.0060 -0.0000. <div>2</div> Attached with NAS1097AD3 rivets, length determined on installation. <div>3</div> F/A-18A 161353 THRU 161981; F/A-18B 161354 THRU 161924. <div>4</div> F/A-18A 161982 THRU 162444; F/A-18B 161932 THRU 161934. <div>5</div> F/A-18A 162445 THRU 162477; F/A-18B 161947 THRU 162427. <div>6</div> 161353 THRU 162477. <div>7</div> 162826 AND UP. <div>8</div> Two required.				

Figure 5. Cover, (Door EBJ) Replacement (Sheet 2)

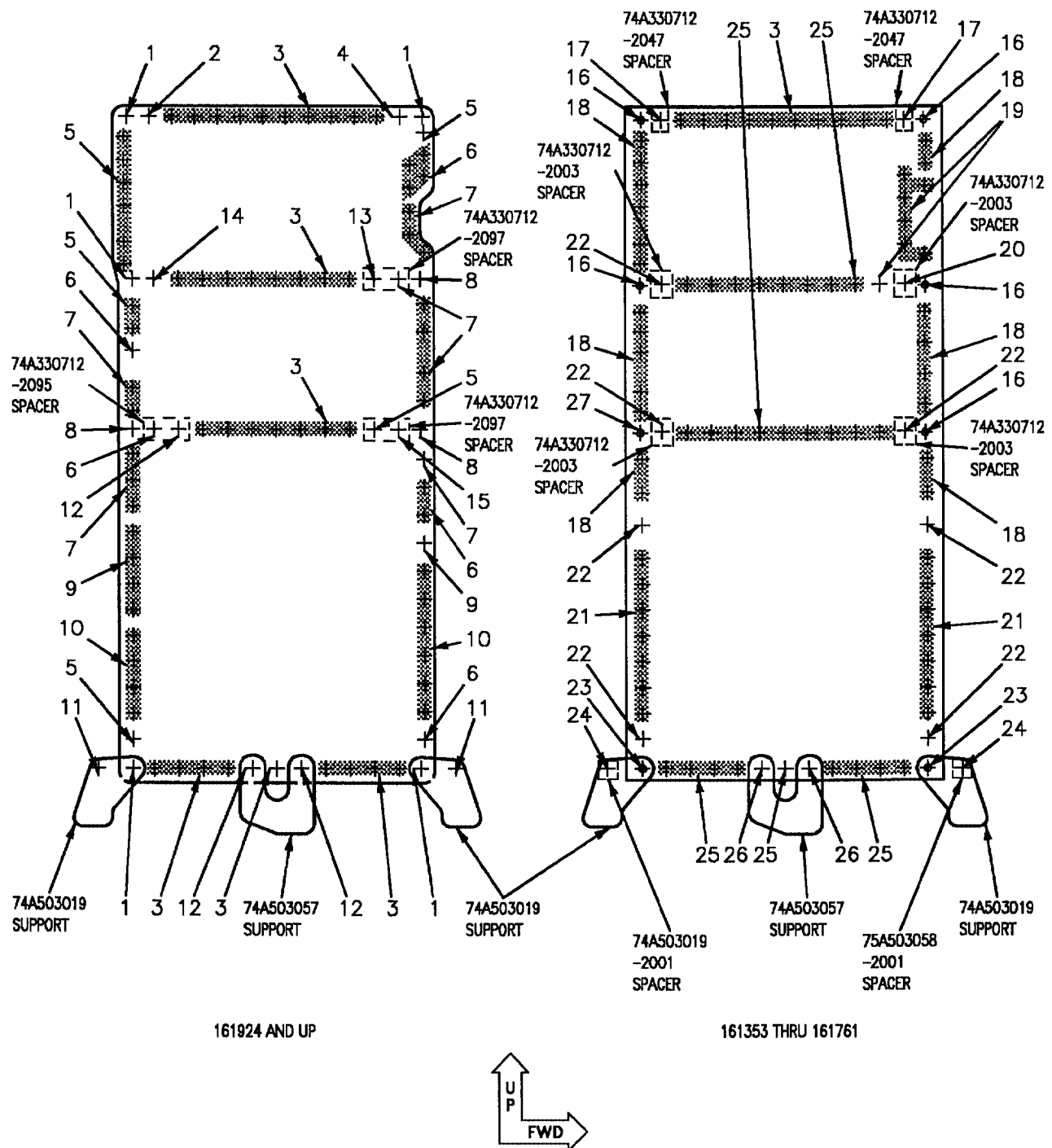


Figure 6. Web 74A330741-2009, 2010, 2023, 2024, 9003 and 9004, Replacement (Sheet 1)

Idx No.	Eft		Nomenclature	Part Number
1			Pin Collar	HLT310TB-5-4 HL570-5MC
2			Rivet Spacer	CSR903B-5-5 74A330712-2083
3			Rivet	CSR903B-5-4
4			Rivet Spacer	CSR903B-5-5 74A330712-2091
5			Rivet	CSR903B-5-7
6			Rivet	CSR903B-5-8
7			Rivet	CSR903B-5-9
8			Pin Collar	HLT310TB-5-6 HL570-5MC
9			Rivet	BRFZ5T8
10			Rivet	BRFZ5T7
11			Rivet Shim	MS20470AD5-4 74A503058-2001
12			Rivet	CSR903B-5-5
13			Rivet	CSR903B-5-6
14			Rivet Spacer	CSR903B-5-6 74A330717-2115
15			Rivet	CSR903B-5-12
16			Pin Collar	HL10V6-5 HL570-6MC
17			Rivet Spacer	CSR903B-5-6 74A330712-2047
18			Rivet	CSR903B-6-6
19			Rivet	CSR903B-6-7
20			Rivet Spacer	CSR903B-6-12 74A330712-2003
21			Rivet	BRFS6T8
22			Rivet Spacer	CSR903B-6-8 74A330712-2003
23			Pin Collar	HL10V6-7 HL570-6MC

Figure 6. Web 74A330741-2009, 2010, 2023, 2024, 9003 and 9004, Replacement (Sheet 2)








Idx No.	Eft		Nomenclature	Part Number
24			Rivet Spacer	MS20470AD-5-7 74A503058-2001
25			Rivet	CSR903B-6-4
26			Rivet	CSR903B-6-5
27			Pin Collar	HL10V6-6 HL570-6MC
LEGEND				
 Hole diameter is 0.1600 +0.0025 -0.0000.				
 Hole diameter is 0.161 +0.005 -0.000.				
 Hole diameter is 0.191 +0.006 -0.000.				

Figure 6. Web 74A330741-2009, 2010, 2023, 2024, 9003 and 9004,
Replacement (Sheet 3)

ORGANIZATIONAL, INTERMEDIATE AND DEPOT MAINTENANCE**STRUCTURE REPAIR****AFT FUSELAGE EXTERNAL DOORS DAMAGE EVALUATION**

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Aft Fuselage Finish System and Markings	WP036 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Aluminum Sheet Edge Repairs	WP034 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Blending	WP038 00
Aerospace Metals, General Data and Usage Factors	NAVAIR 01-1A-9
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
Passivation Treatments For Corrosion Resisting Steel	QQ-P-35

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Repairable Damage	2
Repairs	2
Permanent Repairs	2
Cracks	3
Dents	4
Edge	3
Holes	3
Scratches, Nicks, Gouges, or Corrosion	2
Door 66 Welded Repair for 321 Cres Material, Intermediate Maintenance	4
Door 66 Welded Repair for 6Al-4V Titanium Material, Depot Maintenance	4
Replacement	5
Seal 74A330671-2005 Removal and Installation	5

Record of Applicable Technical Directives

None

1. **DAMAGE EVALUATION.** See figure 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.**8. Scratches, Nicks, Gouges, or Corrosion.**

Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A1, A3, and B2, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00). Door 66 is corrosion resistant material, refer to Door 66 Welded Repair for 321 Cres Material, Intermediate Maintenance, or Door 66 Welded Repair for 6Al-4V Titanium Material, Depot Maintenance, below, this WP.

(1) Stop drill ends of crack in repair zone A1 or rout out crack in repair zone A3. Completely cut out crack in smallest diameter circle possible in zone B2.

(2) In repair zones A1 and A3, install lap patch.

(3) In repair zone B2, install type two flush or lap patch.

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00). Door 66 is corrosion resistant material, refer to Door 66 Welded Repair for 321 Cres Material, Intermediate Maintenance, or Door 66 Welded Repair for 6Al-4V Titanium Material, Depot Maintenance, below, this WP.

(1) Cut out damage.

(2) In repair zones A1 and A3, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zones A1, A3, and B2, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00). Door 66 is corrosion resistant material, refer to Door 66 Welded Repair

for 321 Cres Material, Intermediate Maintenance, or Door 66 Welded Repair for 6Al-4V Titanium Material, Depot Maintenance, below, this WP.

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch. In repair zone B2, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00). Door 66 is corrosion resistant material, refer to Door 66 Welded Repair for 321 Cres Material, Intermediate Maintenance, or Door 66 Welded Repair for 6Al-4V Titanium Material, Depot Maintenance, below, this WP.

(1) Cut out damage.

(2) In repair zones A1 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zones A1 and A3, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00). Door 66 is corrosion resistant material, refer to Door 66 Welded Repair for 321 Cres Material, Intermediate Maintenance, or Door 66 Welded Repair for 6Al-4V Titanium Material, Depot Maintenance, below, this WP.

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. Dents.

a. In repair zones A1, A3, and B2, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00). Door 66 dents require a depot engineering disposition.

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch. In repair zone B2, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00). Door 66 dents require a depot engineering disposition.

(1) Cut out damage.

(2) In repair zones A1 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. Door 66 Welded Repair For 321 Cres Material, Intermediate Maintenance.

Welded repairs

of cracks, holes and edge damage, without restriction of location or amount, can be done so long as fit and function requirements are met after repair. Dents beyond negligible damage limits require a depot engineering disposition.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Filler Material	CRES 347

a. Damage is repaired by welding (NAVAIR 01-1A-9).

b. Passivate repair per federal specification QQ-P-35, Type I.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

14. Door 66 Welded Repair For 6Al-4V Titanium Material, Depot Maintenance. Welded repairs of cracks, holes and edge damage, without restriction of location or amount, can be done so long as fit and function requirements are met after repair. Dents beyond negligible damage limits require a depot engineering disposition.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Filler Material	6Al-4V

a. Damage is repaired by welding (NAVAIR 01-1A-9).

b. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

15. REPLACEMENT.

16. **Seal 74A330671-2005 Removal And Installation.** See figure 1 for applicable details.

Support Equipment Required

None

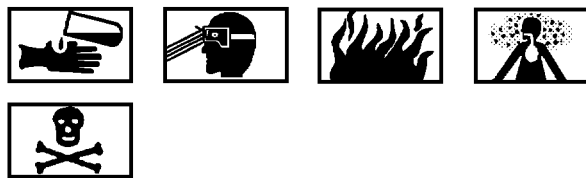
Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-



Be careful not to enlarge holes when drilling out fasteners. Damage to door could occur.

- a. Drill out fasteners securing seal to door.
- b. Remove seal from door and discard.



Isopropyl Alcohol

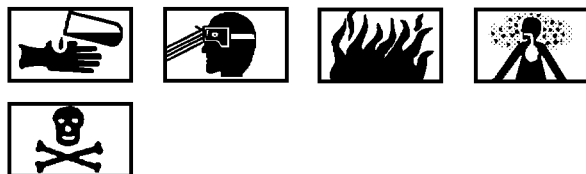
1

c. Clean contact area of residual silicone rubber with plastic scraper and clean cheesecloth moistened with isopropyl alcohol.

d. Temporarily secure seal to door maintaining edge distance to existing centerline of holes, as shown.

e. Back drill all attaching holes, 0.161 +0.005 -0.000 inch diameter through seal.

f. Deburr all holes in retaining ring on seal.



Primer

10

g. Install rivets, length determined on installation, set wet with primer.

h. Refinish as required (A1-F18AC-SRM-500, WP036 00).

Table 1. Negligible Damage Limits




















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Door 67	0.090	0.002	0.002	100%		10% 
	Zone A3	0.066	0.0006	0.0006	100%	0.033	
	Zone B3	0.055	0.005	0.0006	100%	0.020	
Fig 1 (2) (5) (6)	Cover						
	Door 110	0.050	0.002	0.002	100%		
	Door 175	0.100	0.002	0.002	100%	0.050	
Fig 1 (3)	Zone A1	0.040	0.002	0.002	100%	0.020	
	Zone A1	0.090	0.002	0.002	100%	0.045	
Fig 1 (4)	Door 73	0.090	0.002	0.002	100%	0.045	
Fig 1 (7)	Door 75	0.065	0.002	0.002	100%	0.033	
	Zone A3	0.050	0.002	0.002	100%	0.020	
	Zone A3	0.090	0.002	0.002	100%		
	Zone B2	0.065	0.0006	0.0006	100%	0.033	
	Zone B2	0.050	0.005	0.0006	100%	0.020	
Fig 1 (9) (10) (11)	Door 70	0.032	0.002	0.002	100%	0.016	
	Plate						
	Zone A1	0.032	0.002	0.002	100%	0.016	
	Retainer						
Fig 1 (12)	Zone A1	0.055	0.002	0.002	100%	0.027	
	Cover	0.125	0.002	0.002	100%		
Fig 1 (12)	Door 103	0.060	0.002	0.002	100%	0.030	
	Zone A3	0.110	0.002	0.002	100%		
	Zone A3	0.150	0.0006	0.0006	100%		
	Zone B3	0.060	0.0006	0.0006	100%	0.030	
Fig 1 (13)	Door 62	0.070	0.002	0.002	100%	0.035	
	Zone A3	0.090	0.002	0.002	100%		
	Zone A3	0.122	0.002	0.002	100%		
	Zone A3	0.160	0.002	0.002	100%		
	Zone A3	0.070	0.0006	0.0006	100%	0.035	
	Zone B3						

Table 1. Negligible Damage Limits (Continued)





Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (15)	Door 66 Zone A1 Zone A1	0.040 0.100	0.002 0.002	0.002 0.002	100% 100%	 0.020	 
NOTE  None allowed.							

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Door 67 Zone A3 Zone B3 Zone B3	0.090 0.066 0.055	0.018 0.013 0.010	0.018 0.013 0.010	40% 30% 30%	0.018 0.013 0.010	40% 30% 30%
Fig 1 (2) (5) (6)	Cover Door 110 Door 175 Zone A1 Zone A1	0.050 0.100	0.020 0.010	0.020 0.010	100% 100%	0.020 0.010	100% 100%
Fig 1 (3)	Door 72 Zone A1 Zone A1	0.040 0.090	0.008 0.018	0.008 0.018	100% 100%	0.008 0.018	100% 100%
Fig 1 (4)	Door 73 Zone A1	0.090	0.018	0.018	100%	0.018	100%
Fig 1 (7)	Door 75 Zone A3 Zone A3 Zone A3 Zone B2 Zone B2	0.065 0.050 0.090 0.065 0.050	0.013 0.010 0.018 0.013 0.010	0.013 0.010 0.018 0.013 0.010	40% 30% 30% 30% 30%	0.013 0.010 0.018 0.013 0.010	40% 30% 30% 30% 30%
Fig 1 (9)	Door 70 Plate	0.032	0.0006	0.006	100%	0.006	100%
(10)	Zone A1 Retainer	0.032	0.0006	0.006	100%	0.006	100%
(11)	Zone A1 Cover	0.055	0.011	0.011	100%	0.011	100%
	Zone A1 Zone A1	0.125	0.025	0.025	100%	0.025	100%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (12)	Door 103	0.060	0.010	0.010	40%	0.010	40%
	Zone A3	0.110	0.022	0.022	40%	0.022	40%
	Zone B3	0.150	0.030	0.030	40%	0.030	40%
	Zone B3	0.060	0.012	0.012	40%	0.012	40%
Fig 1 (13)	Door 62	0.070	0.014	0.014	40%	0.014	40%
	Zone A3	0.122	0.025	0.025	40%	0.025	40%
	Zone A3	0.160	0.032	0.032	40%	0.032	40%
	Zone A3	0.090	0.018	0.018	40%	0.018	40%
	Zone B3	0.070	0.014	0.014	30%	0.014	30%
Fig 1 (15)	Door 66	0.040	0.008	0.008	100%	0.008	100%
	Zone A1	0.100	0.020	0.020	100%	0.020	100%

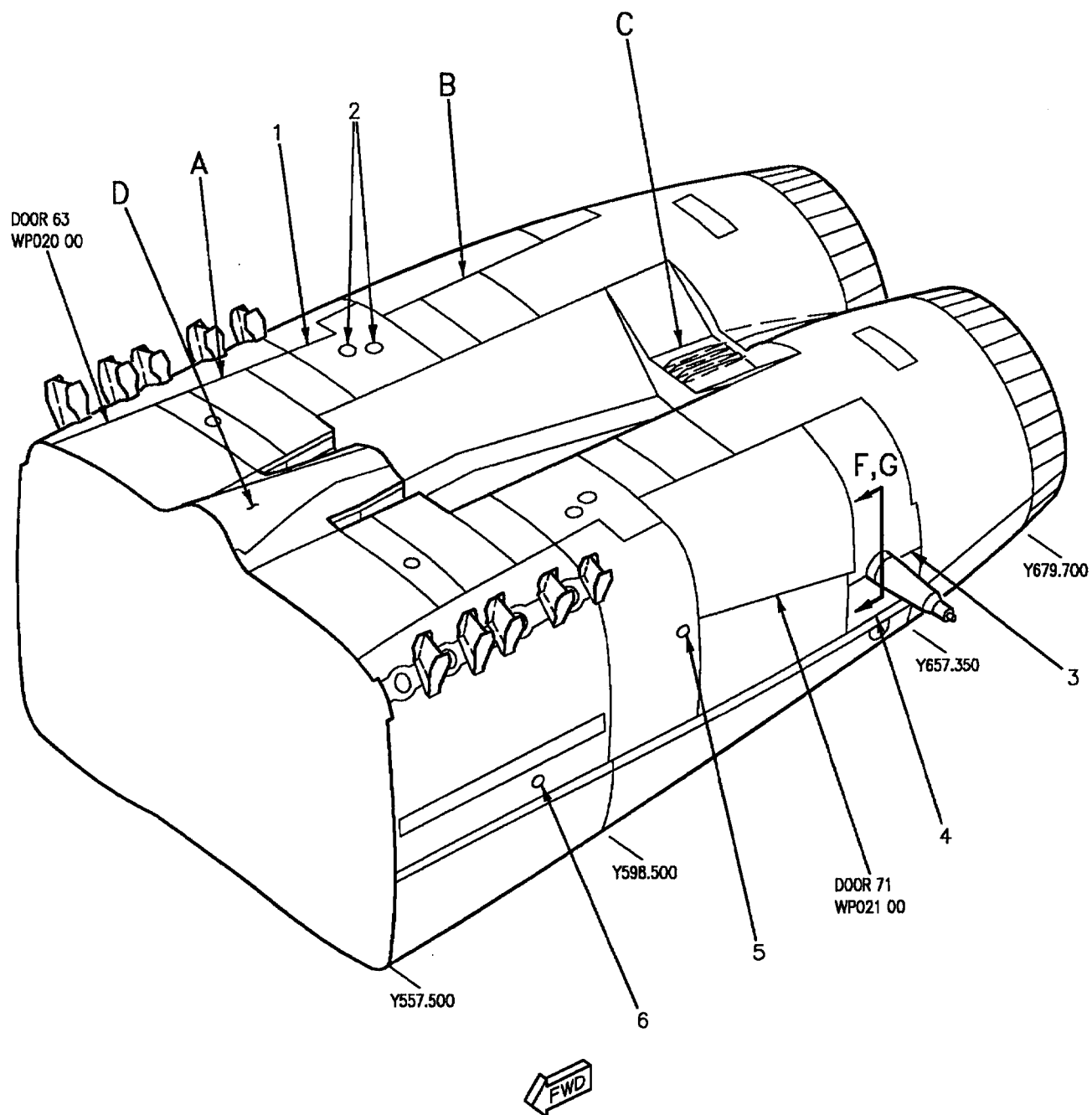


Figure 1. Material Index (Sheet 1)

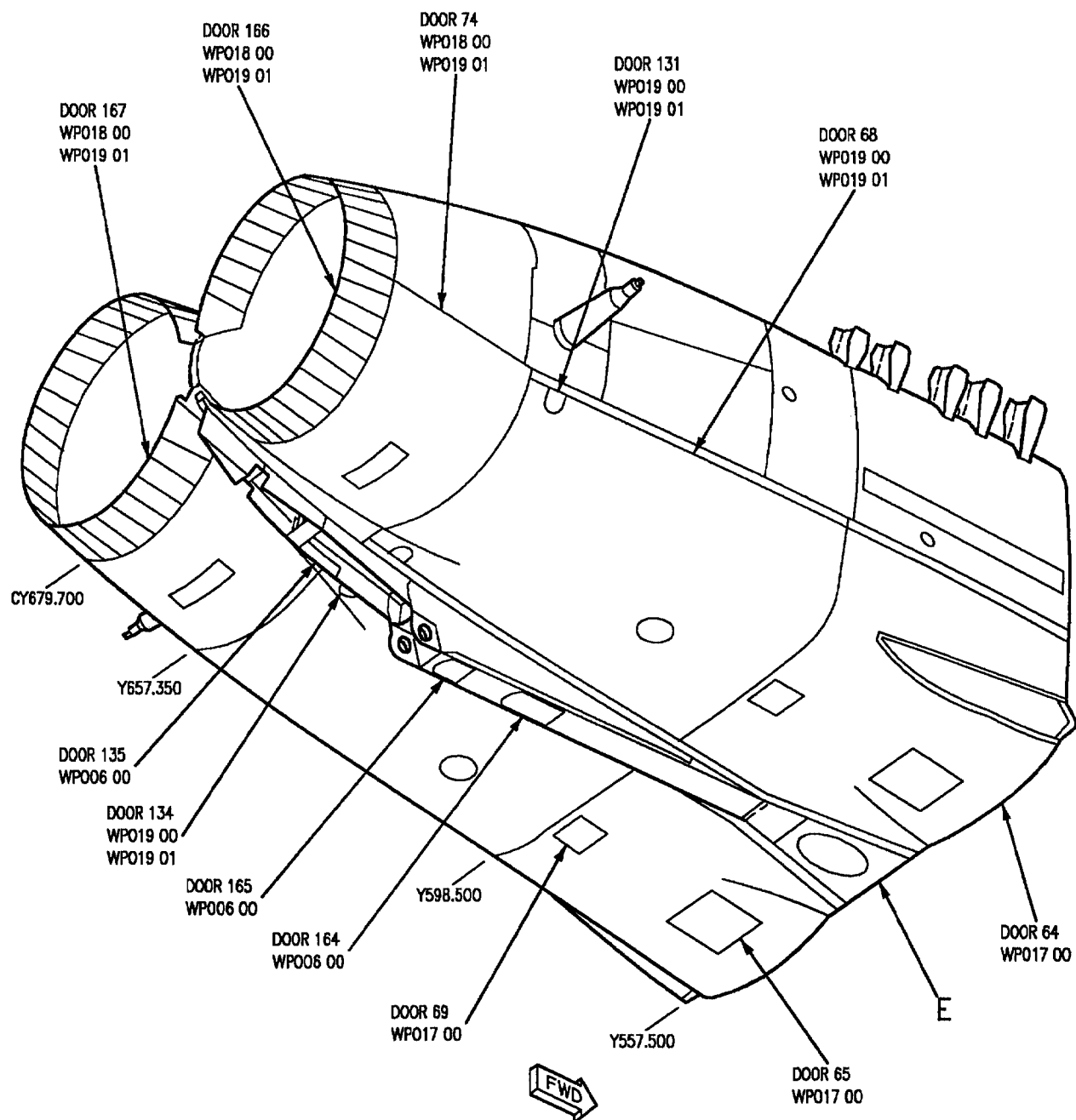


Figure 1. Material Index (Sheet 2)

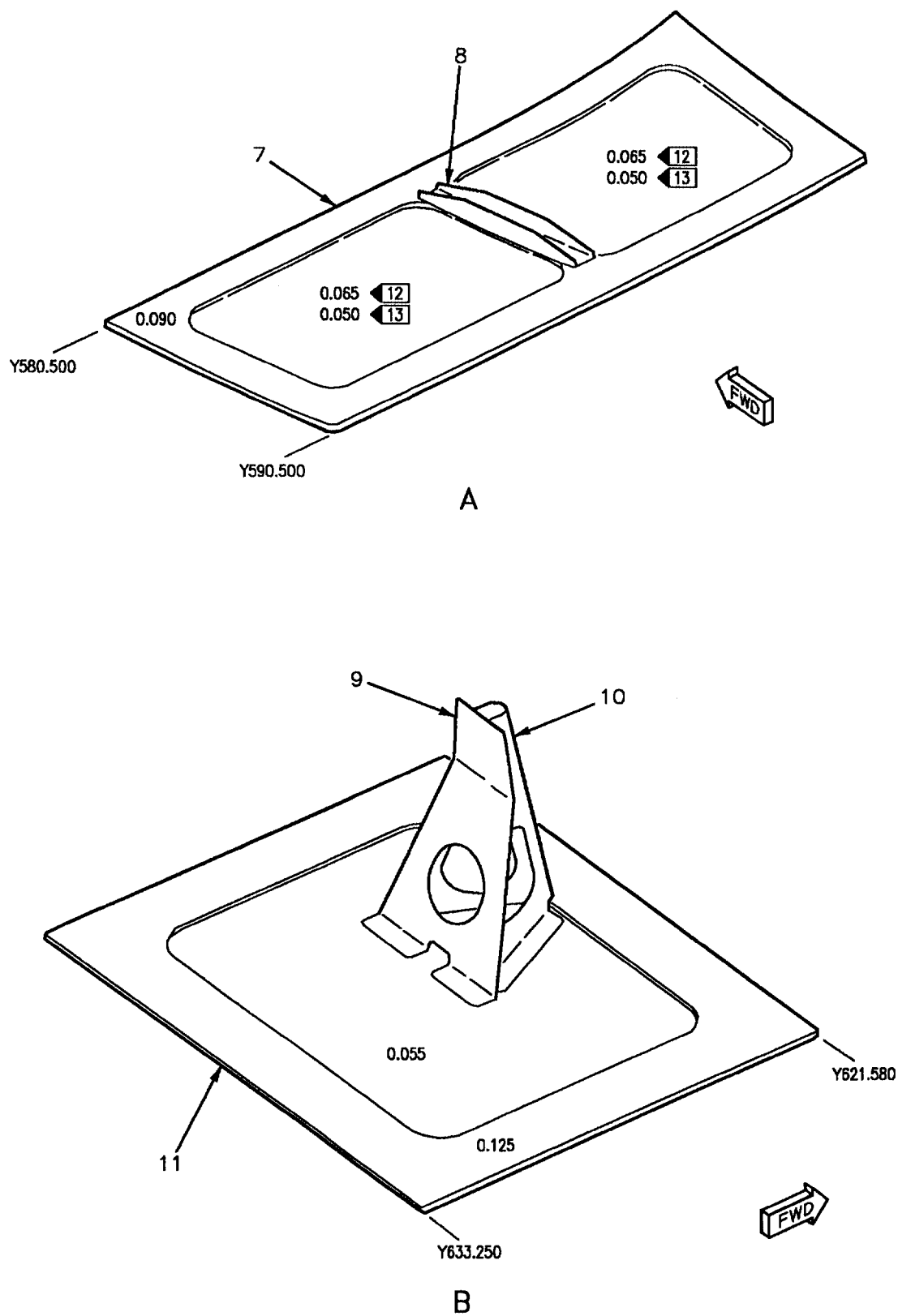


Figure 1. Material Index (Sheet 3)

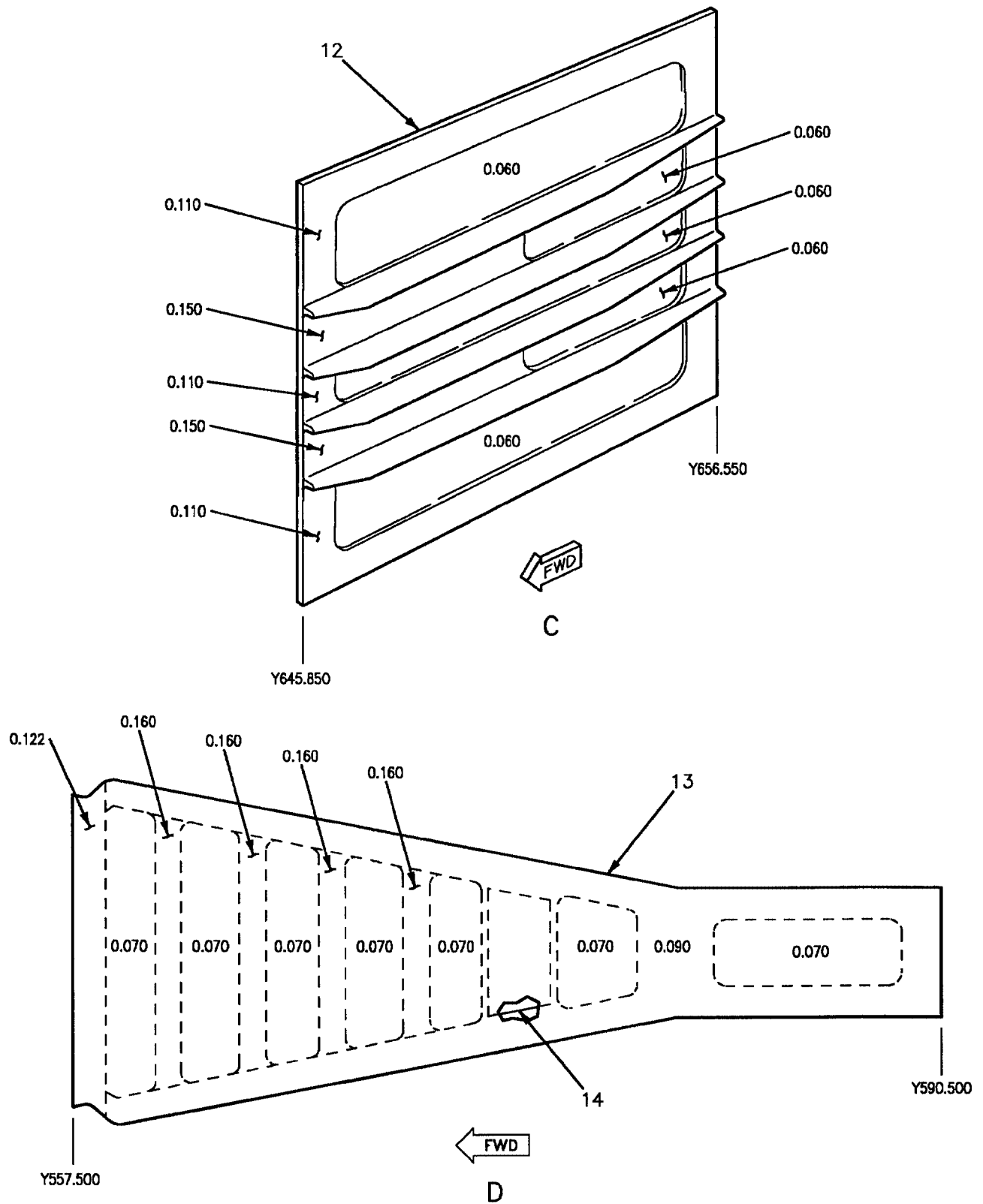


Figure 1. Material Index (Sheet 4)

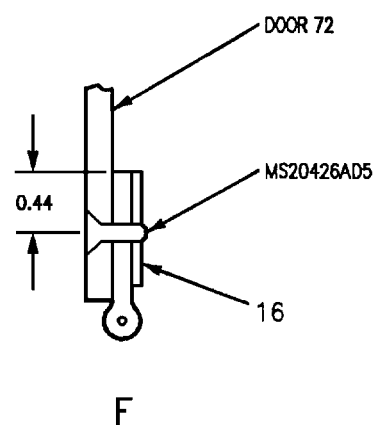
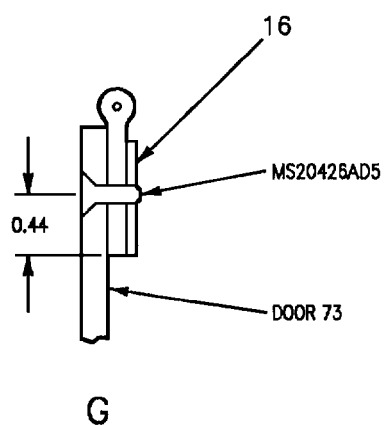
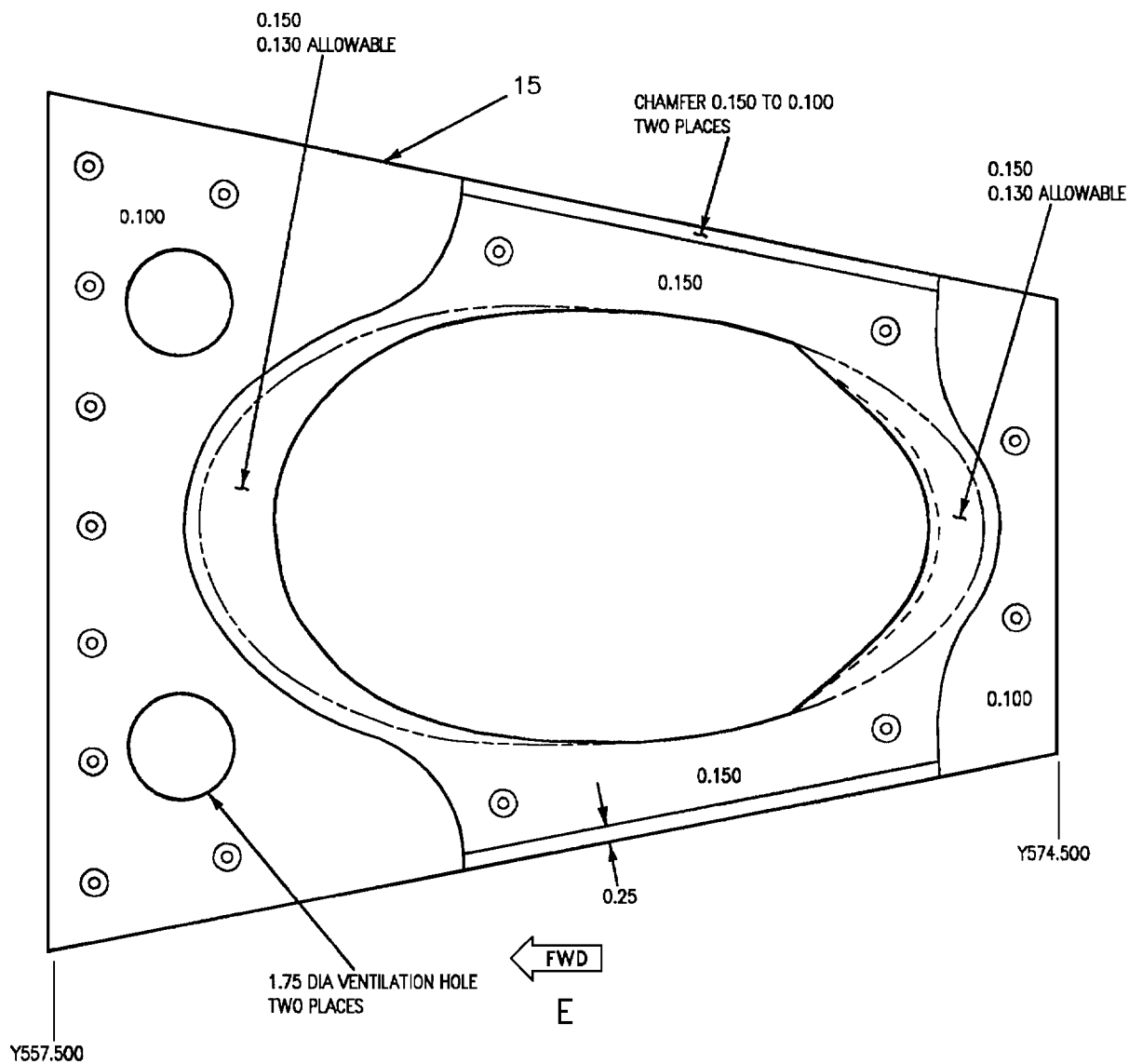


Figure 1. Material Index (Sheet 5)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1	<div>16</div> <div>17</div> <div>20</div>	Cover (Door 67) 74A330611-2003, -2004 74A330611-2005, -2006 74A330611-2007, -2008	<div>1</div> Sheet <div>14</div> Sheet	7075-T76 Alclad
2	<div>21</div> <div>22</div>	Cover 74A330661-2012 9M789-245-5	<div>2</div> Sheet 0.051 Sheet	7075-T76 Al Aly
3	<div>12</div> <div>13</div>	Cover (Door 72) 74A330671-2011, -2012 74A330671-2021, -2022	<div>3</div> Sheet	7075-T76 Alclad
4	<div>12</div> <div>13</div>	Cover (Door 73) 74A330671-2013, -2014 74A330671-2019, -2020	0.090 Sheet	7075-T76 Alclad
5	<div>21</div> <div>22</div>	Cover (Door 110) 74A330661-2012 9M789-245-5	<div>2</div> Sheet 0.051 Sheet	7075-T76 Al Aly
6	<div>21</div> <div>22</div>	Cover (Door 175) 74A330661-2012 9M789-245-5	<div>2</div> Sheet 0.051 Sheet	7075-T76 Al Aly
7	<div>12</div> <div>13</div>	Cover (Door 75) 74A330646-2001, -2002 74A330646-2009, -2010	<div>4</div> Sheet <div>7</div> Sheet	7075-T76 Alclad
8		Stiffener 74A330646-2003	0.071 Sheet	7075-T62 Alclad
9		Plate 74A501245-2007, -2008	0.032 Sheet	2024-T72 Alclad
10		Retainer 74A501245-2005, -2006	0.032 Sheet	2024-T72 Alclad
11		Cover (Door 70) 74A330656-2001, -2002	<div>5</div> Sheet	7075-T76 Alclad
12	<div>18</div> <div>19</div>	Cover (Door 103) 74A330676-2003 74A330676-2007	Die Forging	7075-T73 Al Aly
13	<div>9</div> <div>10</div>	Cover (Door 62) 74A330673-9003 74A330673-2005	<div>6</div> Sheet	7075-T76 Alclad
14		Channel 74A330673-2007	0.063 Sheet	7075-T76 Alclad

Figure 1. Material Index (Sheet 6)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
15	<div>8</div> <div>11</div> <div>24</div> <div>25</div> <div>26</div>	Cover (Door 66) 74A332580-9001 74A332580-2007 74A332580-9003 74A332580-9005 74A332580-2009	<div>15</div> Sheet <div>23</div> Sheet	321 Cres 6Al-4V Ti Anl
16		Seal 74A330671-2005	-	Silicone Rubber

LEGEND

- 1

 Land is 0.090 thick and bays are 0.066 thick.
- 2

 0.100 stock size machined to 0.050 around rim of cover.
- 3

 Land is 0.090 thick and bay is 0.044 thick.
- 4

 Land is 0.090 thick and bays are 0.065 thick.
- 5

 Land is 0.125 thick and bay is 0.055 thick.
- 6

 0.160 stock size, machined to thicknesses shown.
- 7

 Land is 0.090 thick and bays are 0.050 thick.
- 8

 161353 THRU 161703.
- 9

 161353 THRU 161521.
- 10

 161522 AND UP.
- 11

 161704 THRU 163165.
- 12

 161353 THRU 161761.
- 13

 161924 AND UP.
- 14

 Land is 0.090 thick and bays are 0.055 thick.
- 15

 Land is 0.100 thick and bay is 0.040 thick.
- 16

 161353 THRU 161756.
- 17

 161757 THRU 161973.
- 18

 161353 THRU 161754.
- 19

 161755 AND UP.
- 20

 161974 AND UP.
- 21

 161353 THRU 162881.
- 22

 162882 AND UP.
- 23

 0.190 stock size, machined to thicknesses shown.
- 24

 163169 THRU 163171.
- 25

 163172 THRU 163175.
- 26

 163166 THRU 163168.

Figure 1. Material Index (Sheet 7)

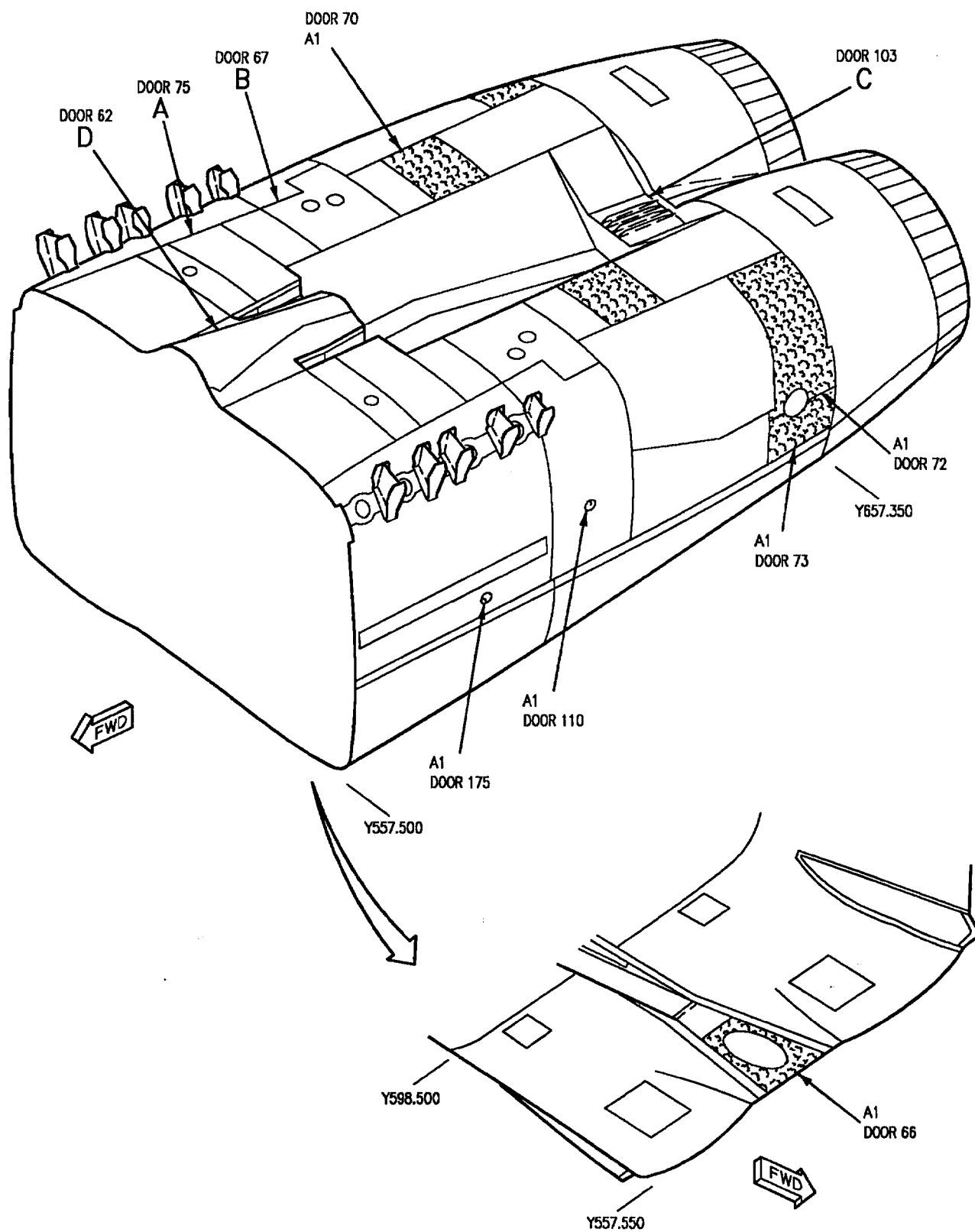


Figure 2. Repair Zones (Sheet 1)

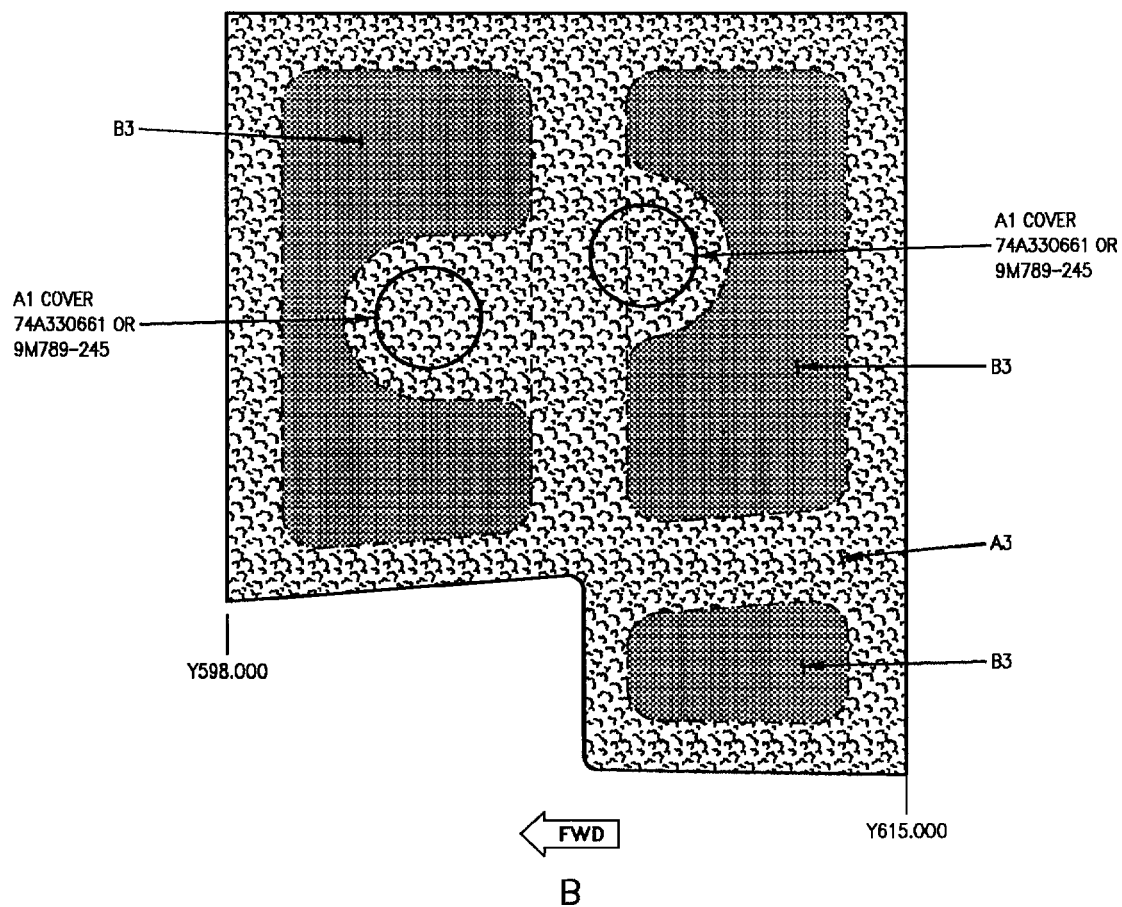
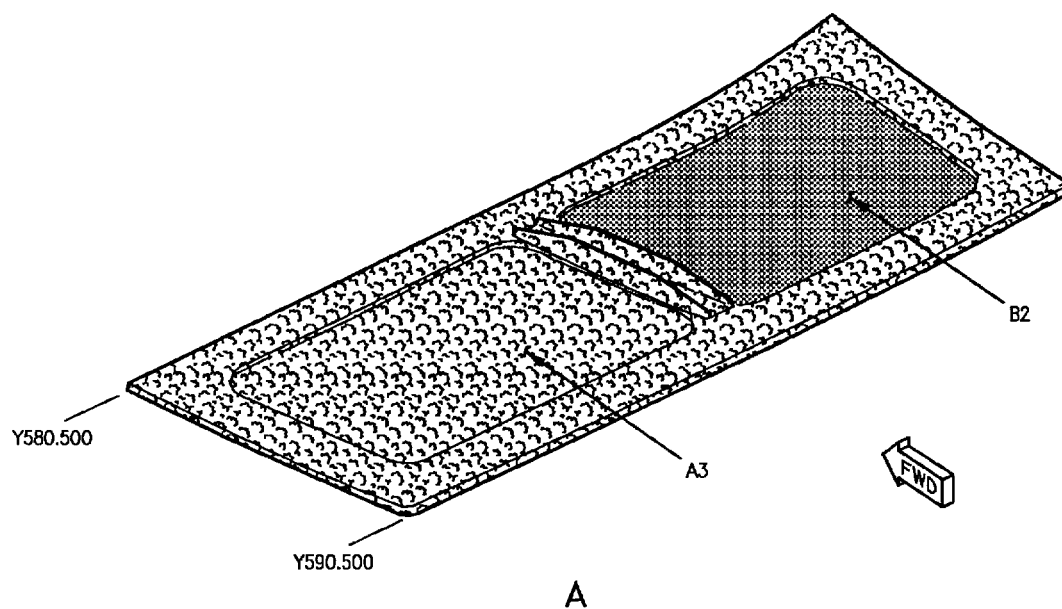


Figure 2. Repair Zones (Sheet 2)

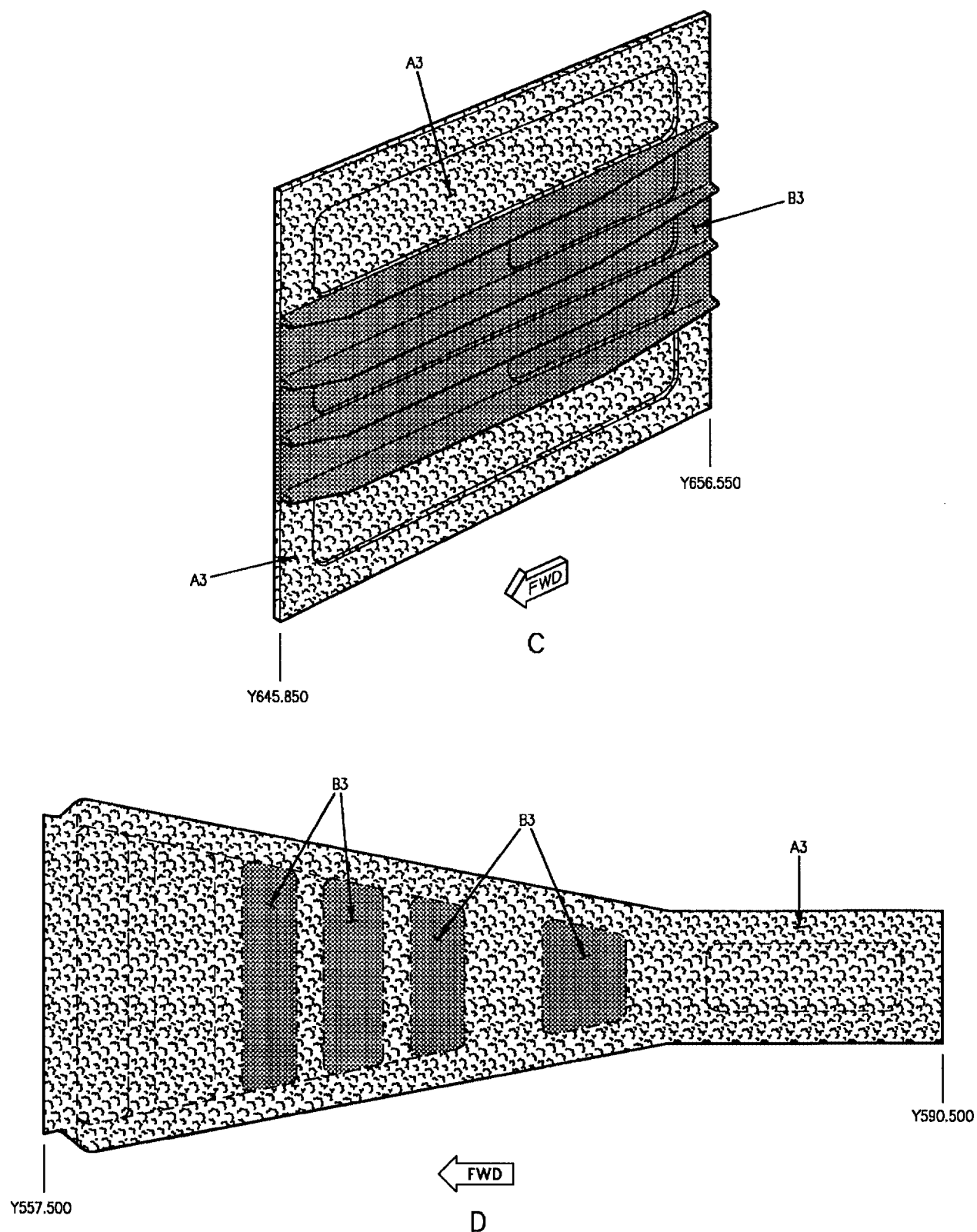


Figure 2. Repair Zones (Sheet 3)

ORGANIZATIONAL MAINTENANCE**STRUCTURE REPAIR****AFT FUSELAGE EXTERNAL DOORS REPLACEMENT**

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Structure Illustrated Part Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Fuselage Section - Aft, Assy of	FIG 003 00
Fuselage Section, Aft Structure, Assy of	FIG 005 00
Fuselage Segment, Ctr, Aft Sect, Y557.5 to Y657.35, Assy of	FIG 008 00
Structure Repair, General Information	A1-F18AC-SRM-200
Gang Channel And Plate Nut Identification and Repair	WP004 05
Structural Hardware	NAVAIR 01-1A-8

Alphabetical Index

Subject	Page No.
Replacement	2
Door 62 Replacement	3
Door 66 Replacement	6
Door 67 Replacement	8
Door 70 Replacement	12
Door 72 Replacement	14
Door 73 Replacement	16
Door 75 Replacement	18
Door 103 Replacement	20
Doors 110, 175 and Cover 74A330661 or 9M789 Replacement	22
Fastener Attaching Hardware	2
Fasteners	2
Form In Place Sealing	2

Record of Applicable Technical Directives

None

Support Equipment Required

None

Materials Required

None

1. REPLACEMENT.

2. Doors 62 figure 1; 66 figure 2; 67 figure 3; 70 figure 4; 75 figure 7; 103 figure 8; 110, 175 and cover 74A330661 or 9M789 figure 9 are interchangeable. Door 72 figure 5, is replaceable on 161353 THRU 161527, trimming and drilling are required. Door 72 figure 5, is replaceable on 161528 THRU 161734, trimming only is required. Door 72 figure 5, is interchangeable on 161735 AND UP. Door 73 figure 6 is replaceable on 161353 THRU 161527, trimming and drilling are required. Door 73 figure 6 is interchangeable on 161528 AND UP.

3. **FASTENER ATTACHING HARDWARE.** See the applicable figure for plate nut, gang channel, or receptacles. For replacement rivets attaching plate nuts, gang

channels, or receptacles not shown in figures 1 thru 7 and 9 (A1-F18AC-SRM-200, WP004 05).

4. FASTENERS. Replace fasteners:

a. Doors 62 and 66 (A1-F18AC-SRM-440, FIG 003 00).

b. Doors 67, 72, 73, 75, 110, 175 and cover 74A330661 or 9M789 (A1-F18AC-SRM-440, FIG 005 00).

c. Door 103 (A1-F18AC-SRM-440, FIG 008 00).

d. Door 70. See figure 4 for receptacles. For flare lock fasteners (A1-F18AC-SRM-440, FIG 005 00). Replace receptacles and flare lock fasteners (Milsen panel fasteners) (NAVAIR 01-1A-8).

5. **FORM IN PLACE SEALING.** Doors 62, 67, 70, 72, 73, 75, 103, 110, 175 and cover 74A330661 or 9M789 have form in place sealing, for form in place sealing (A1-F18AC-SRM-500, WP010 00). Door 66 does not have a form in place seal.

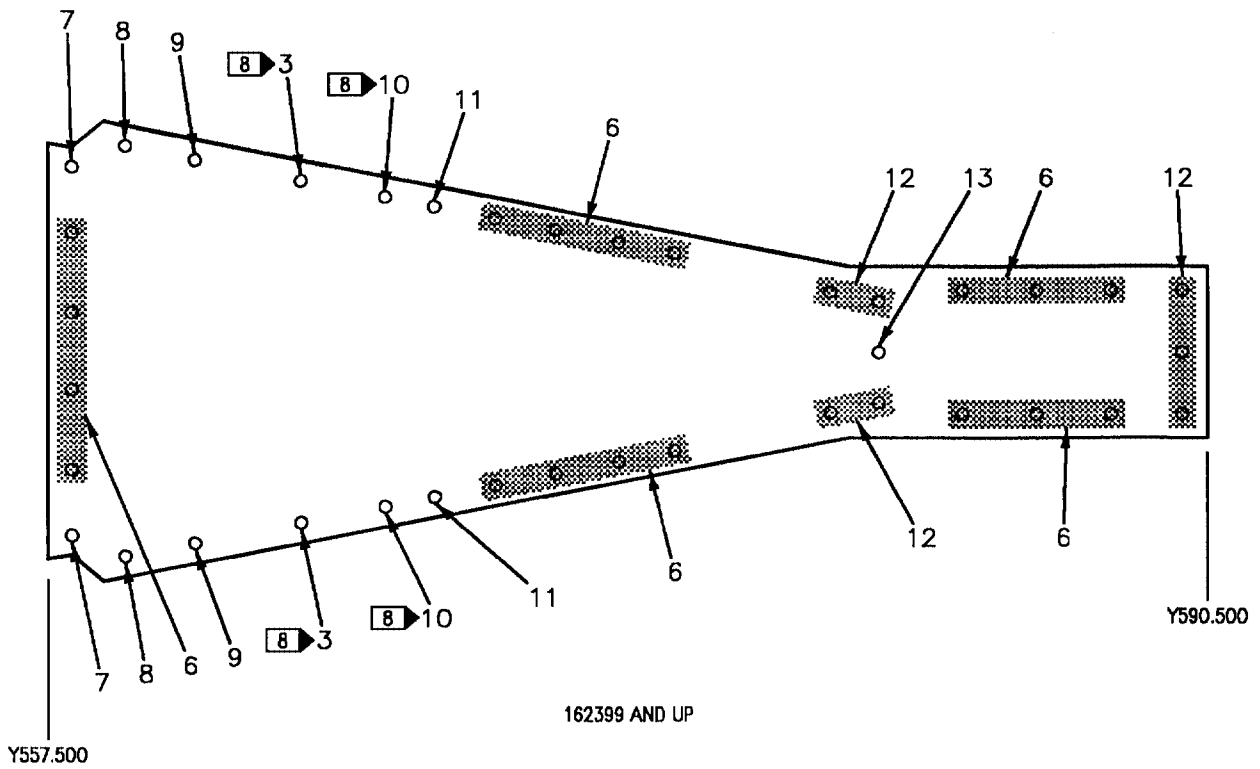
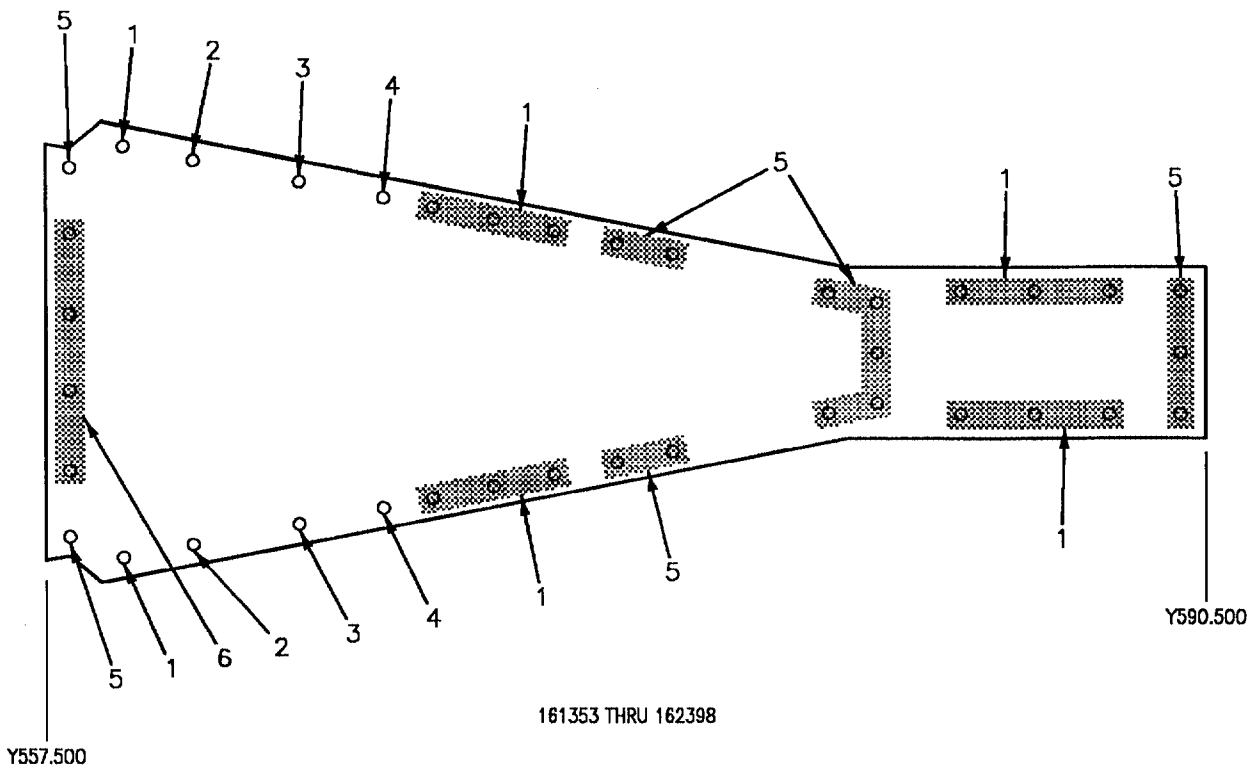


Figure 1. Door 62 Replacement (Sheet 1)






















































Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut	F49069-4-4
2	 	 	Plate Nut Shim	MS21075L4 NAS1195D4XH
3			Plate Nut	F49069-4-1
4			Plate Nut	MS21075L4
5	     	  	Plate Nut Shim Shim Shim Shim Shim	MS21075L4 NAS463XD416H NAS463XD416L NAS463XD416M NAS1195D4XH NAS1195D4XL
6			Plate Nut	F49069-4-6
7	 	   	Plate Nut Shim Plate Nut Shim	MS21075L4 NAS1195D4XH MF52099-4 NAS1195D4XH
8	 	 	Plate Nut Spacer	F49069-4-2 74A330711-2177
9	 	 	Plate Nut Shim Plate Nut Shim	MS21075L4 NAS1195D4XH MF52099-4 NAS1195D4XH
10	 	 	Plate Nut Plate Nut	MS21075L4 MF52099-4
11			Plate Nut	F49251E4-6
12	 	   	Plate Nut Shim Plate Nut Shim	MS21075L4 NAS1195D4XH MF52099-4 NAS1195D4XH
13	 	   	Plate Nut Shim Shim Plate Nut Shim Shim	MS21075L4 NAS1195D4XH NAS1195D4XM MF52099-4 NAS1195D4XH NAS1195D4XM
LEGEND				
 Hole diameter is 0.257 + 0.006 - 0.000.  Two required.				

Figure 1. Door 62 Replacement (Sheet 2)

Idx No.	Eft		Nomenclature	Part Number
3			161353 THRU 161944.	
4			161945 THRU 161959.	
5			161960 THRU 162398.	
6			161353 THRU 161959.	
7			Three required.	
8			Hole diameter is 0.257 +0.006 -0.000 in cover and 0.281 +0.006 -0.000 in structure.	
9			161353 THRU 162398.	
10			162399 THRU 162444.	
11			162445 AND UP.	
12			162399 AND UP.	
13			163112 AND UP.	

Figure 1. Door 62 Replacement (Sheet 3)

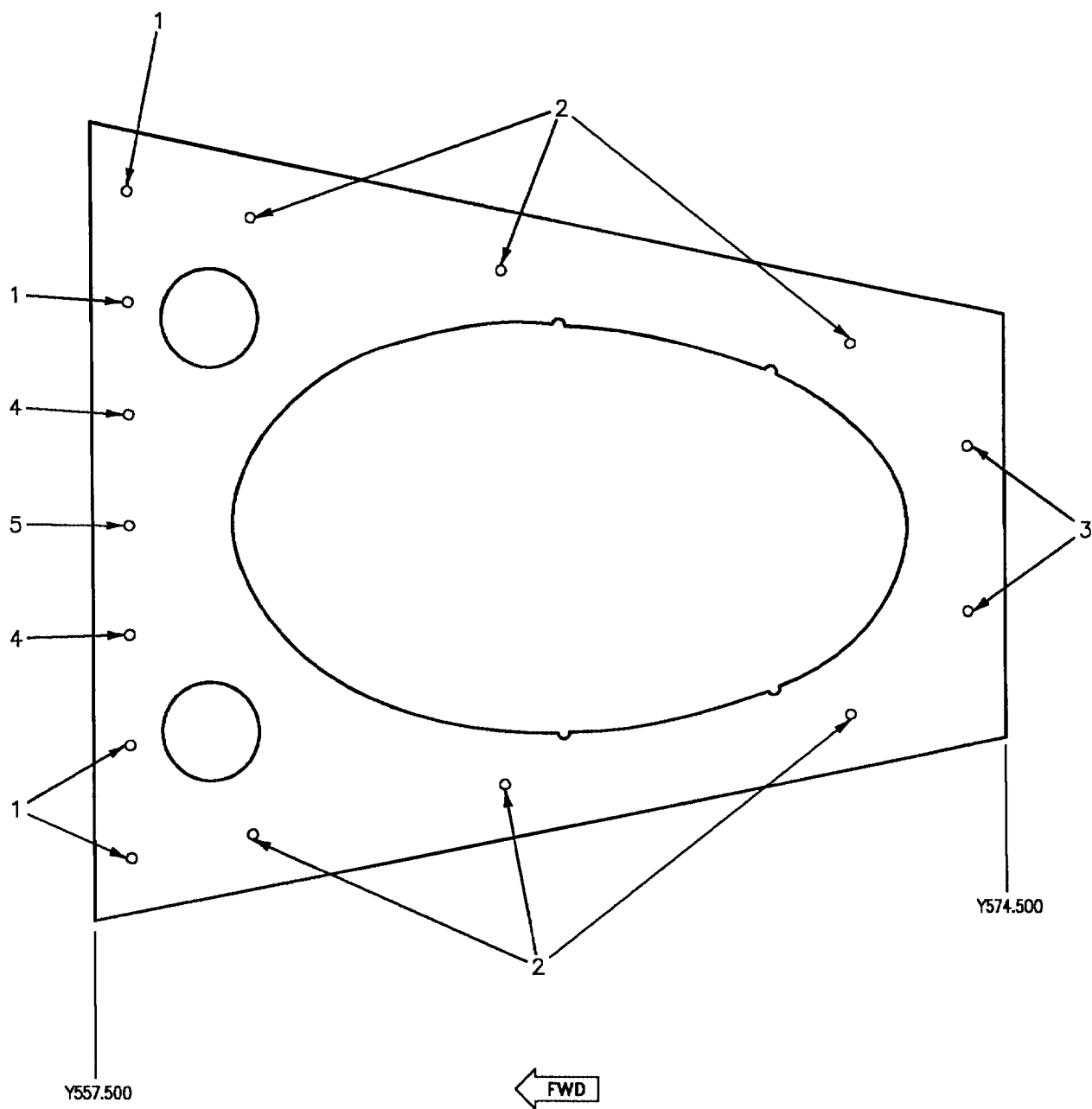


Figure 2. Door 66 Replacement (Sheet 1)





















Idx No.	Eft		Nomenclature	Part Number
1	 	 	Plate Nut Plate Nut	F49249E3-1 F49249E3-3
2			Plate Nut	F49249E3-4
3	 	 	Plate Nut Plate Nut	F49249E3-2 F49251E3-4
4	 	 	Plate Nut Plate Nut	F49249E3-2 F49249E3-4
5	 	 	Plate Nut Plate Nut	F49249E3-4 F49249E3-6
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.191 +0.015 -0.000.</p> <p> 161353 THRU 162444.</p> <p> 162445 AND UP.</p>				

Figure 2. Door 66 Replacement (Sheet 2)

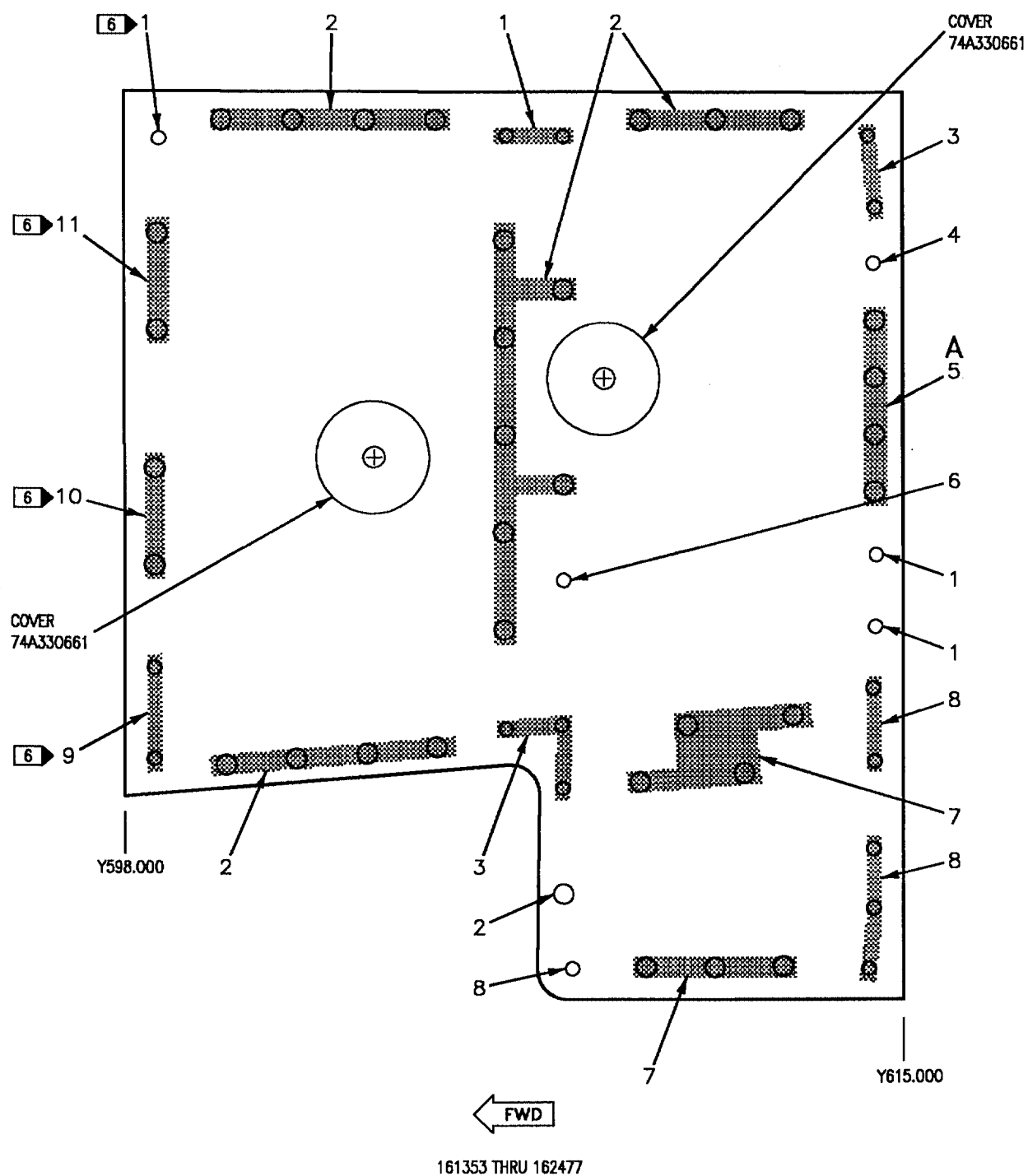


Figure 3. Door 67 Replacement (Sheet 1)

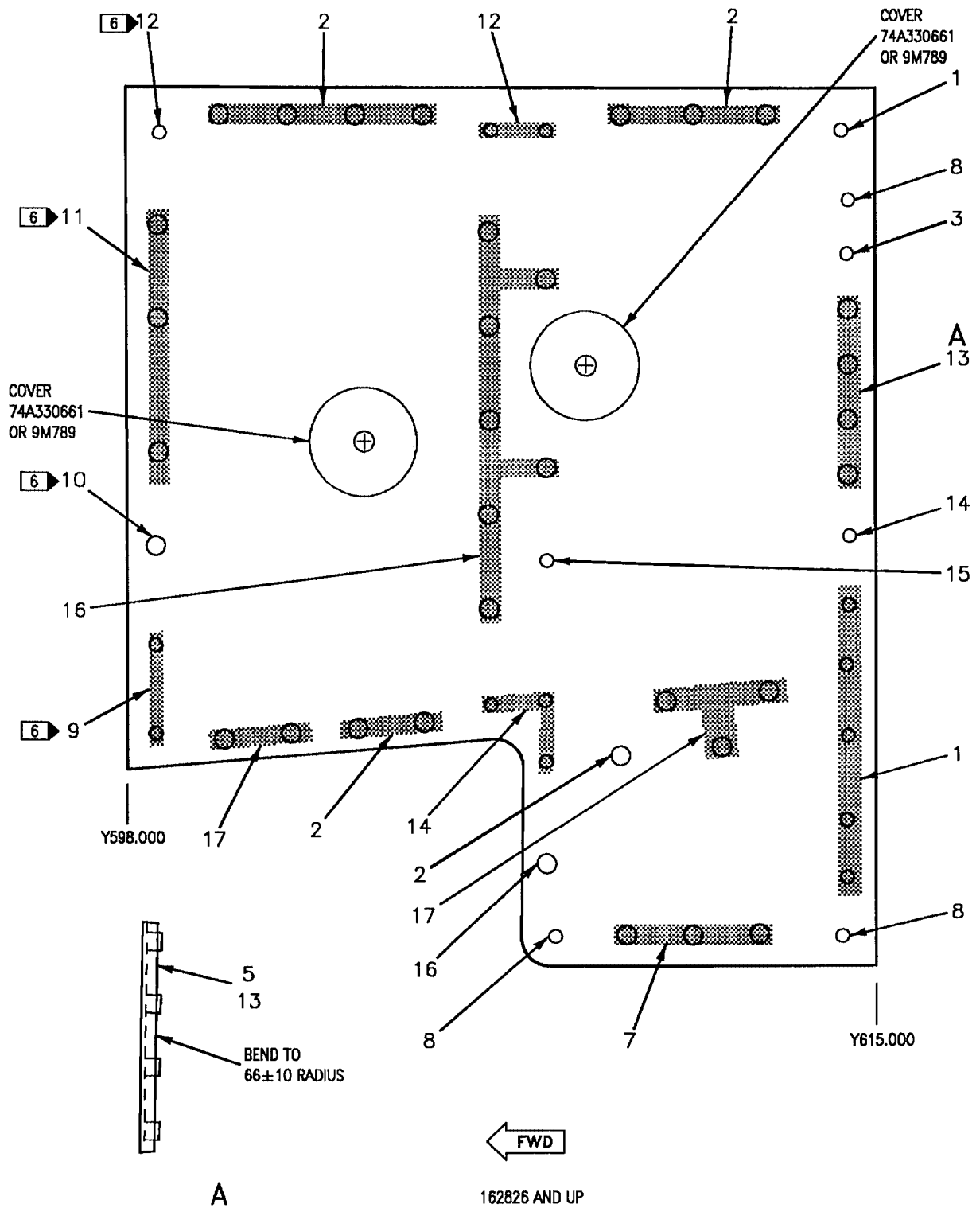


Figure 3. Door 67 Replacement (Sheet 2)

Idx No.	Eft		Nomenclature	Part Number
1	8 9	1 2 1 2	Plate Nut Shim Plate Nut Shim	MS21075L4 NAS1195D4XH MF52099-4 NAS1195D4XH
2		1	Plate Nut	F49069-4-6
3	8 9	1 3 1 3	Plate Nut Shim Plate Nut Shim	MS21075L4 NAS1195D4XH MF52099-4 NAS1195D4XH
4	8 9	1 4 1 4	Plate Nut Shim Plate Nut Shim	MS21075L4 NAS1195D4XH MF52099-4 NAS1195D4XH
5		1	Gang Channel	74A330610-2009 7
6		1	Plate Nut	F50340-4-6
7		1	Plate Nut	F49069-4-4
8	8 9	1 5 1 5	Plate Nut Shim Plate Nut Shim	MS21075L4 NAS1195D4XH MF52099-4 NAS1195D4XH
9	8 9	1 1	Plate Nut Plate Nut	MS21075L4 MF52099-4
10		1	Plate Nut	F49069-4-2
11		1	Plate Nut	F49069-4-1
12	10	1	Plate Nut Shim	MF52099-4 NAS1195D4XH
13	10	1	Gang Channel Shim	74A330610-2011 11 4M49A4DL10-4
14	10	1 5	Plate Nut Shim Shim	MF52099-4 NAS1195D4XH NAS1195D4XM
15	10	1	Plate Nut Shim	F50340-4-6 NAS463YD416
16	10	1	Plate Nut Shim	F49069-4-6 NAS463XD416

Figure 3. Door 67 Replacement (Sheet 3)














Idx No.	Eft		Nomenclature	Part Number
17			Plate Nut Shim	F49069-4-4 NAS463XD416
LEGEND				
 Hole diameter is 0.2500 +0.0060 -0.0000.				
 Two required.				
 Four required.				
 Five required.				
 Three required.				
 Cold worked holes, Type I.				
 Make from G14421-8-4L10 gang channel per detail A.				
 161353 THRU 162444.				
 162445 AND UP.				
 162826 AND UP.				
 Make from G14421-6-4N10 gang channel per detail A.				

Figure 3. Door 67 Replacement (Sheet 4)

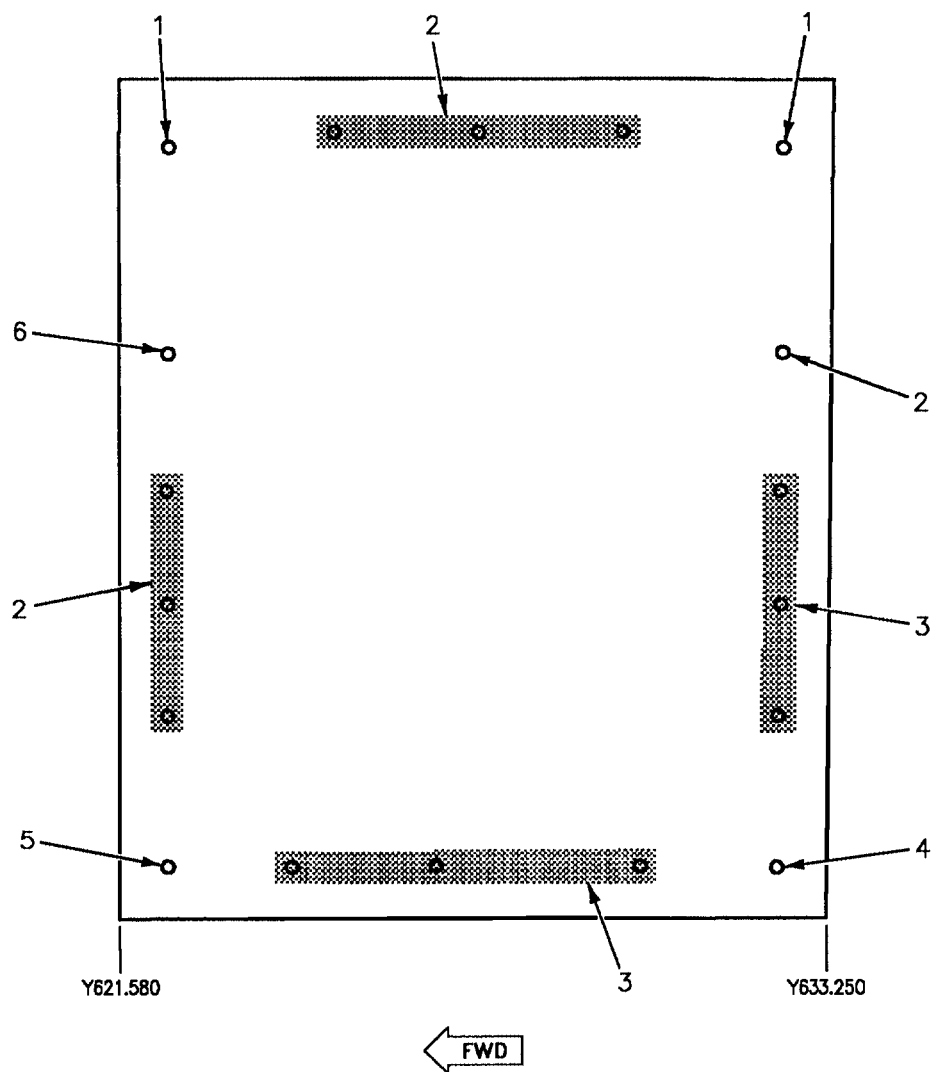


Figure 4. Door 70 Replacement (Sheet 1)








Idx No.	Eft		Nomenclature	Part Number
1			Receptacle	1950-6-6-3
2			Receptacle	1950-6-8-1
3			Receptacle	1950-6-9-0
4			Receptacle	1960-6-7-2
5			Receptacle	1960-6-6-3
6			Receptacle	1950-6-8-2
LEGEND				
 Hole diameter is 0.377 +0.005 -0.000. 2. All holes countersunk 100° to 0.512 diameter at surface, counterbore 0.635 diameter 0.015 deep inner surface.				

Figure 4. Door 70 Replacement (Sheet 2)

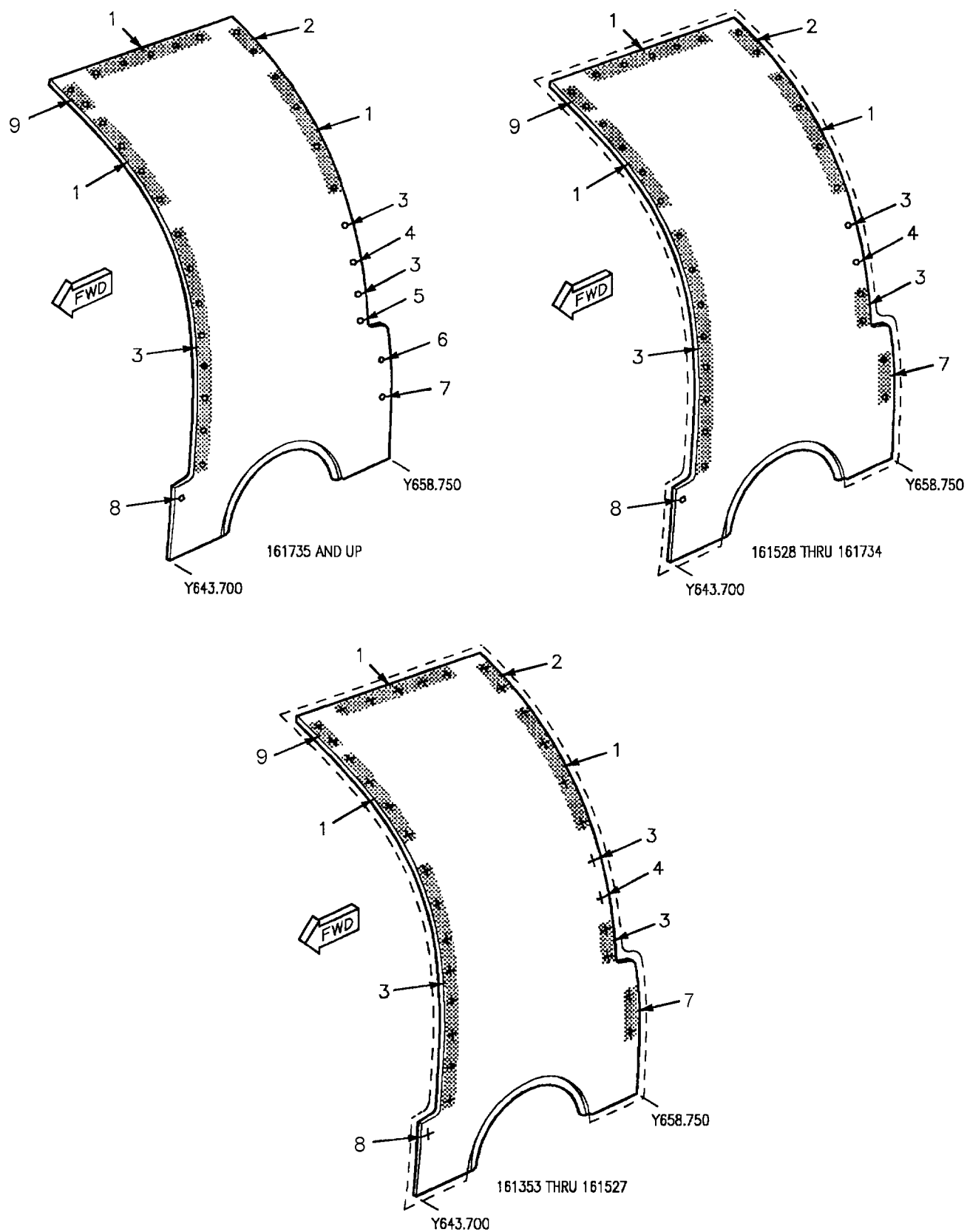


Figure 5. Door 72 Replacement (Sheet 1)





















































Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut	F49069-4-6
2			Gang Channel	G14421-4-4-13
3	 	 	Plate Nut Plate Nut	F49069-4-6 F49069-4-4
4	 	 	Plate Nut Plate Nut	F39668-4 G18421L1-4
5	  	  	Plate Nut Plate Nut Plate Nut 	F49069-4-6 F49069-4-4 F14427-4-4
6	  	  	Plate Nut Plate Nut Plate Nut 	F49069-4-6 F49069-4-2 F14427-2-4
7	 	 	Plate Nut Plate Nut	F49069-4-6 F49069-4-2
8	  	  	Plate Nut Plate Nut Plate Nut	F49069-4-4 MS21076L4 F49069-4-2
9	 	 	Gang Channel Gang Channel	G14421-4-4-12 G14421-2-4F-12 
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.262 +0.019 -0.000.</p> <p> 161353 THRU 161521.</p> <p> 161522 AND UP.</p> <p> 161353 THRU 161761.</p> <p> 161924 AND UP.</p> <p> 161353 THRU 161521, 161742 THRU 161761.</p> <p> 161924 THRU 162846.</p> <p> 162847 AND UP.</p> <p> Preferred replacement for F49069-4-4 plate nut.</p> <p> 161522 THRU 162846.</p> <p> Preferred replacement for F49069-4-2 plate nut.</p> <p> 161522 THRU 161741.</p> <p> Preferred replacement for G14421-2-4-12 gang channel.</p>				

Figure 5. Door 72 Replacement (Sheet 2)

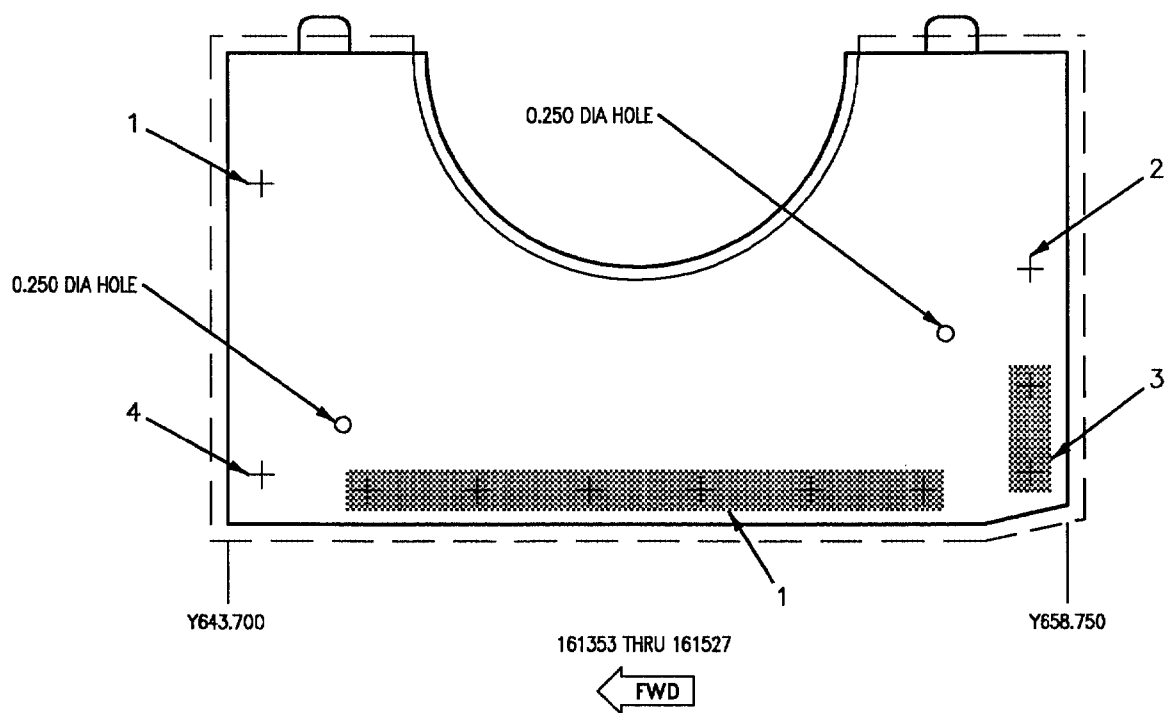
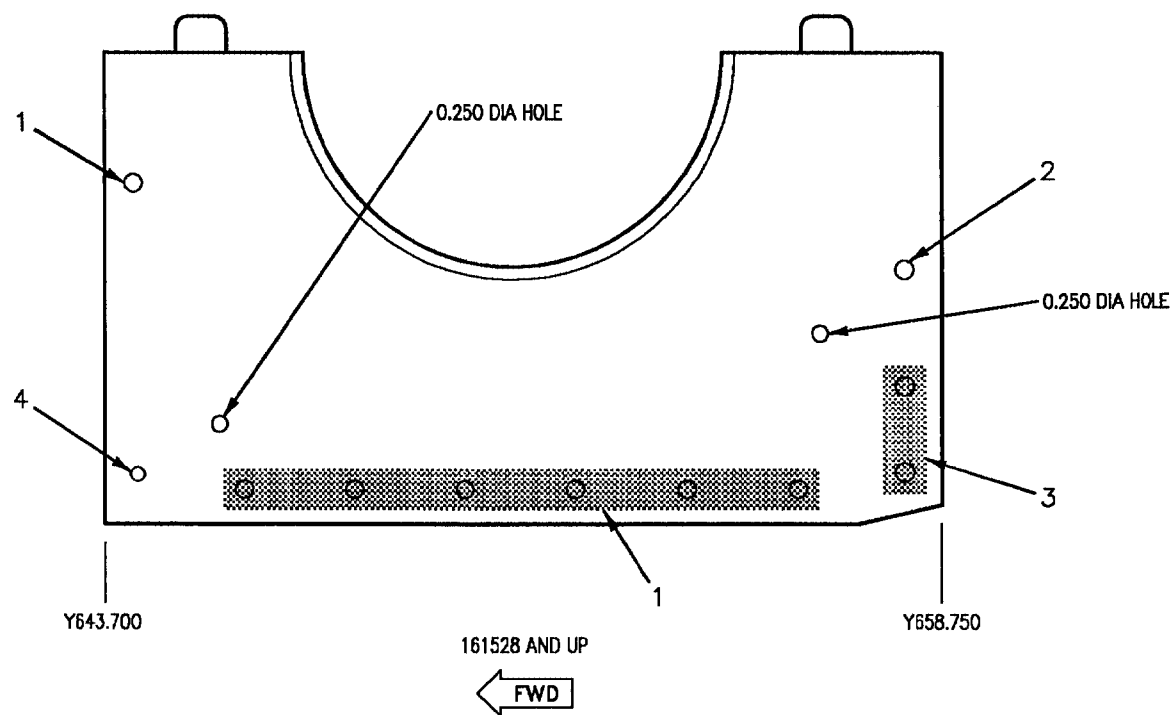


Figure 6. Door 73 Replacement (Sheet 1)
























Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut	F49069-4-6
2	 	 	Plate Nut Plate Nut	F49069-4-4 F49069-4-6
3			Gang Channel	G14421-4-4F11
4	   	     	Plate Nut Shim Shim Plate Nut Shim Shim	MS21073L4 NAS1195C4FH NAS1195C4KH MK52098-4 NAS1195C4FH NAS1195C4KH
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.262 +0.019 -0.000.</p> <p> Two required.</p> <p> 161353 THRU 161761.</p> <p> 161924 AND UP.</p> <p> 161353 THRU 162444.</p> <p> 162445 AND UP.</p> <p> 161924 THRU 162444.</p>				

Figure 6. Door 73 Replacement (Sheet 2)

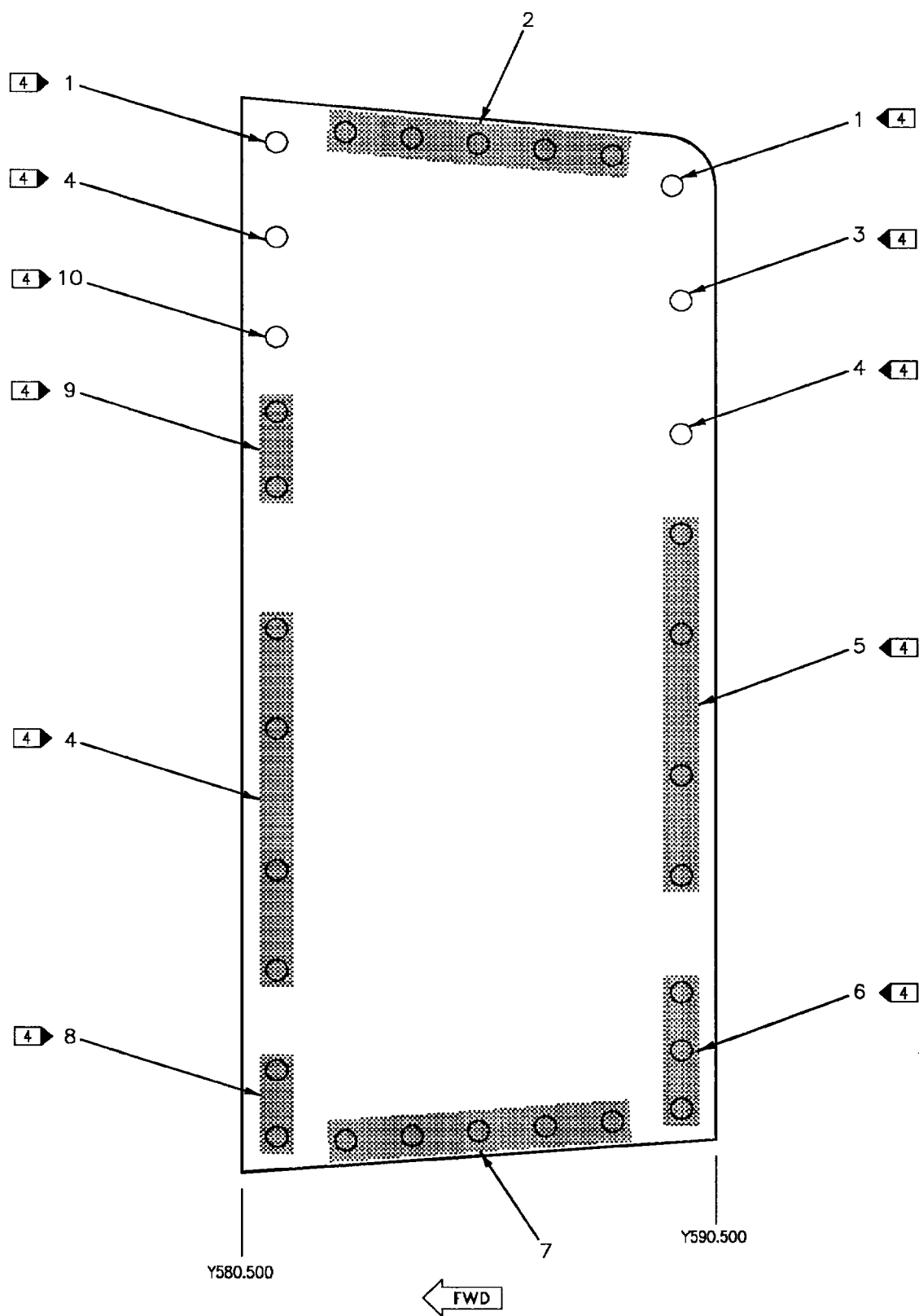


Figure 7. Door 75 Replacement (Sheet 1)







































Idx No.	Eft		Nomenclature	Part Number
1	 	 	Plate Nut Plate Nut	F29337-4-4 F52108-4-4
2	 	 	Plate Nut Plate Nut	F49069-4-4 F49069-4-6
3			Plate Nut Shim	F49069-4-1  NAS463XD416H
4			Plate Nut Shim	F49069-4-2  NAS463XD416H
5			Plate Nut	F49069-4-2 
6	  	 	Gang Channel Gang Channel Shim	G14421-4-4-10 G14421-2-4L10 4M49A4DL10-3
7	  	 	Plate Nut Plate Nut Shim	F49069-4-4 F49069-4-4 NAS463XD416M
8			Gang Channel	G14421-2-4F11
9			Gang Channel Shim	G14421-6-4-13 4M49A4DM13-2
10			Plate Nut Shim	F50340-4-6 NAS463YD416M
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.250 + 0.006 - 0.000.</p> <p> 161353 THRU 161731.</p> <p> 161732 AND UP.</p> <p> Cold worked holes, Type I.</p> <p> All holes countersunk 100° to 0.397 diameter, at surface.</p> <p> 161353 THRU 161761.</p> <p> 161924 AND UP.</p> <p> Replacement for F49069-4-6 plate nut.</p> <p> Replacement for F49069-4-4 plate nut.</p> <p> 161353 THRU 162444.</p> <p> 162445 AND UP.</p>				

Figure 7. Door 75 Replacement (Sheet 2)

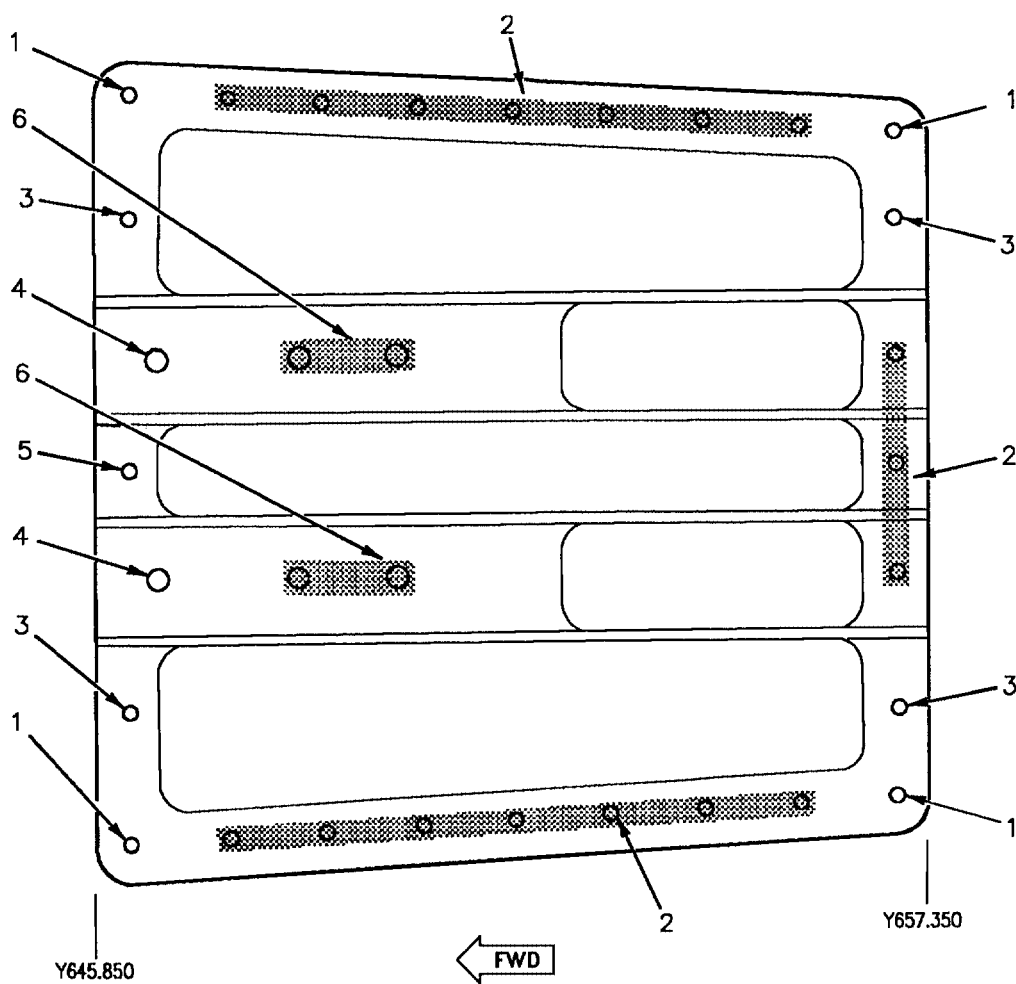


Figure 8. Door 103 Replacement (Sheet 1)









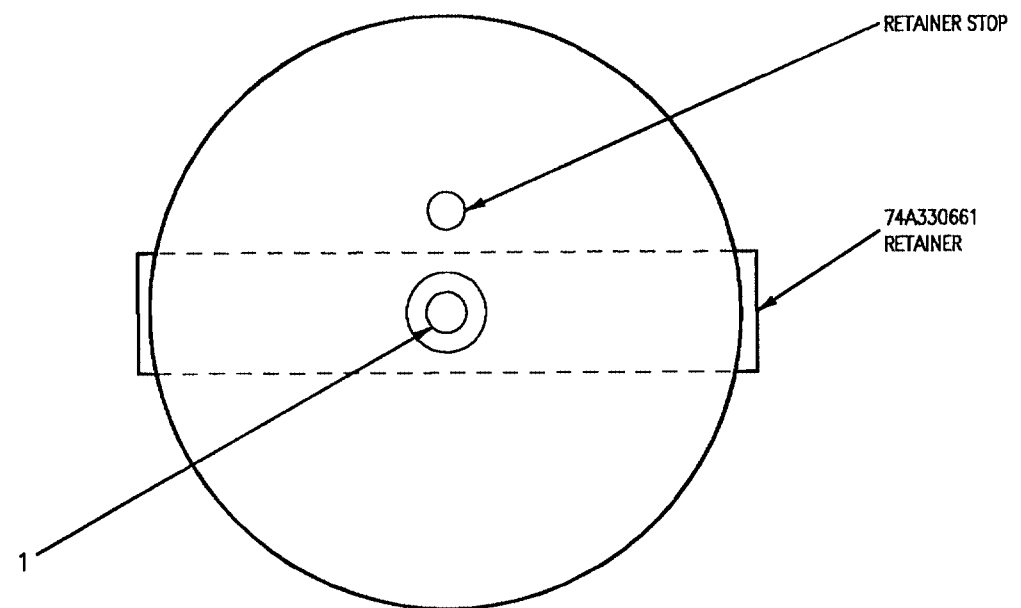
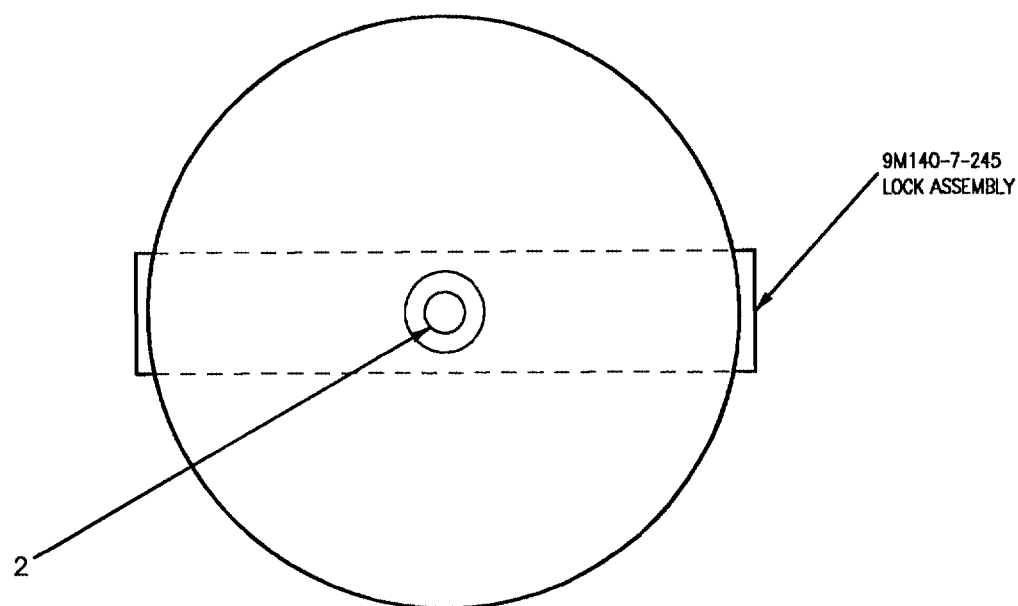
Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut	F29339-01-3
2			Plate Nut	F49249E3-4
3			Plate Nut	F49249E3-2
4			Plate Nut	F49249E5-1
5			Plate Nut	F49251E3-2
6			Plate Nut	F49249E5-4
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.191 +0.006 -0.000. Attached with CSR902B-3 rivets, length determined on installation.</p> <p> Hole diameter is 0.312 +0.007 -0.000. Attached with CSR902B-4 rivets, length determined on installation.</p>				

Figure 8. Door 103 Replacement (Sheet 2)



74A330661



9M789-245-5

Figure 9. Doors 110, 175 and Cover 74A330661 or 9M789 Replacement (Sheet 1)

01600901









Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut 	MS21075L3
2			Plate Nut	MS21047L3
LEGEND  Hole diameter is 0.191 + 0.006 -0.000, countersunk 101° to 0.381 diameter at surface.  Plate nut is attached to a removable retainer.  161353 THRU 162881.  162882 AND UP.				

Figure 9. Doors 110, 175 and Cover 74A330661 or 9M789 Replacement (Sheet 2)

ORGANIZATIONAL AND DEPOT MAINTENANCE**STRUCTURE REPAIR****FORWARD ENGINE ACCESS DOOR (DOOR 64)**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Forward Engine Access Door (Door 64) Radome Drill Jig RE274330601-1, -2	WP017 01
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Priming Procedures	WP011 00
Aft Fuselage Finish System and Markings	WP036 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Line Maintenance Procedures	A1-F18AC-LMM-000
Nondestructive Inspection	A1-F18AC-SRM-300
Pulse Echo, Longitudinal Wave Contact, Without Delay Line For Composite Laminate Material	WP008 02
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Replacement - Engine	WP003 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Door, Access - Engine, Forward, Instl of	FIG 009 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Locating Blind Holes and Trim Lines	WP004 03
Fasteners	WP004 06
Oversize Fasteners	WP004 07
Cold Working Fastener Holes	WP004 10
In-Service Tolerances	WP008 00
Adhesive, Cement and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Patch Fabrication	WP006 01
Aluminum, Graphite Epoxy, or Titanium Patch Installation and Removal	WP007 00
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repairs	WP034 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Blending	WP038 00
Fiberglass or Aramid Assembly, Class I Damage Repair	WP039 00
Fiberglass or Aramid Assembly, Class II Damage Repair	WP040 00
Fiberglass or Aramid Assembly, Class III Damage Repair	WP041 00
Fiberglass or Aramid Assembly, Class IV Damage Repair	WP042 00
Fiberglass or Aramid Assembly, Class VI Damage Repair	WP044 00
Fiberglass or Aramid Assembly, Class VII Damage Repair	WP045 00
Tactical Electronic Warfare Systems	A1-F18AC-760-300
Aft Mid Band Radome Part No. L126-121-1 or Mt Mid Band Antenna AS-3420/ALQ-126 (64E-T008)	WP013 00
Aft Low Band Radome Part No. L126-119-1 or Mt Low Band Antenna AS-3418/ALQ-126 (64E-S006)	WP015 00
ALQ-126 Mid Band Coax Cable TE33 (64W-P534)	WP038 00
ALQ-126 Low Band Coax Cable TE31 (64W-P530)	WP039 00

Reference Material (Continued)

Weapon Control Systems	A1-F18AC-740-300
AIM-7 Fuselage Antenna AS-3423/APG-65 (60E-T014) AIM-7 Fuselage Antenna	
AS-3424/APG-65 (60E-S011)	WP022 00
AIM-7 Left Fuselage Radio Frequency Cable (60W-P526, 60W-P530 or 60W-P531)	WP023 02
AIM-7 Right Fuselage Radio Frequency Cable (60W-P527, 60W-P532 or 60W-P533)	WP023 03
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
Structural Hardware	NAVAIR 01-1A-8

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Record of Applicable Technical Directives

Type/Num-ber	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 89	6 Jan 87	Rework of Door 69 L/R (RAMEC NORIS-10-86)	15 Apr 88	U.S. Navy Prepared

1. **DAMAGE EVALUATION - METAL.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Repair to aluminum sheet across structure or land areas, 0.063 inch thick or greater, in zone B2 is depot maintenance. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS - METAL.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.

8. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A1, A2, A3, and B2, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Stop drill ends of crack in repair zones A1 and A2 or rout out crack in repair zone A3. Completely cut out crack in smallest diameter circle possible in zone B2.

(2) In repair zones A1, A2, and A3, install lap patch.

(3) In repair zone B2, install type two flush or lap patch.

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone B3, repair cracks free of structure or land areas in aluminum sheet as listed:

(1) Completely cut out crack in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1, A2, A3, and B2, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) as listed:

(1) Cut out damage.

NOTE

When making repair in zone B2, to 0.063 inch thick or greater material, all fastener holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A1, A2, A3 and B2, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zones A1 and B2, repair cracks to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and B2, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zones A1, A2, A3, and B2 repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Cut out damage.

(2) In repair zones A1, A2, and A3, install type one flush or lap patch. In repair zone B2, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone B3, repair holes free of structure or land areas in aluminum sheet as listed:

(1) Completely cut out damage in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1, A2, A3, and B2 repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) as listed:

(1) Cut out damage.

NOTE

When making repair in repair zone B2, to 0.063 inch thick or greater material, all fastener holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A1, A2, A3, and B2, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zones A1 and B2, repair holes to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and B2, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zones A1, A2, A3 and B2 repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. **Dents.**

a. In repair zones A1, A2, A3, and B2, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Cut out damage.

(2) In repair zones A1, A2, and A3, install type one flush or lap patch. In repair zone B2, install type two flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zone B3, repair dents free of structure or land areas in aluminum sheet as listed:

(1) Completely cut out dent in the smallest diameter circle possible.

(2) Fabricate patch (A1-F18AC-SRM-250, WP006 01).

(3) Install patch using FM300 adhesive (A1-F18AC-SRM-250, WP007 00).

(4) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1, A2, A3, and B2, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) as listed:

(1) Cut out damage.

NOTE

When making repair in B2 to 0.063 inch thick or greater material, all fastener holes shall either be cold worked (A1-F18AC-SRM-200, WP004 10) or drilled to an interference fit (A1-F18AC-SRM-200, WP004 06 for standard fasteners or WP004 07 for oversize fasteners). Cold working or drilling interference fit holes is depot maintenance.

(2) In repair zones A1, A2, A3, and B2, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

d. In repair zones A1 and B2, repair dents to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and B2, install repair one through six. Select repair that can be adapted to damaged parts.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. **FASTENER HOLE REPAIR.** See figure 3. Repair procedure is for elongated holes, deep countersink, oversize hole, and/or deep counterbore for flare lock fasteners (Milson fasteners) where door is 0.160 inch thick. Repair is intermediate maintenance.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Grommet Tool, Installation, 100° Countersink	NST-130-6

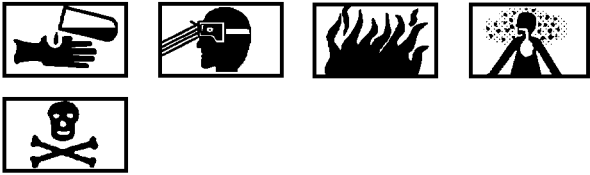
Materials Required

Specification or Part Number	Nomenclature
Cheesecloth	CCC-C-440, Type 1, Class 1
Grommet	1938-6
Methyl Isobutyl Ketone	D1153
Primer, Epoxy	MIL-P-23377, Type 2, Class 1

- a. Remove door 64.
- b. Remove Milson fastener at damaged hole.
- c. Measure door thickness. Door must be 0.160 +0.010 -0.010 inch thick at damaged hole to do this repair.
- d. Enlarge hole to 0.468 +0.004 -0.000 inch diameter. Maintain fastener hole centerline.
- e. Countersink hole 100° to 0.558 +0.010 -0.000 inch diameter.
- f. Increase inside moldline counterbore depth to 0.058 +0.002 -0.000 inch.

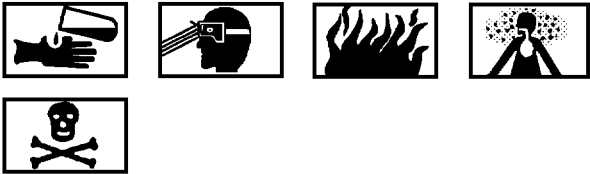
g. Deburr as required.

h. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).



Primer 10

i. Install 1938-6 grommet wet with epoxy primer or equivalent, using NST-130-6 installation tool.



Methyl Isobutyl Ketone 3

j. Remove excess primer with cheesecloth moistened with methyl isobutyl ketone.

k. Make sure final hole size after installation is 0.377 +0.005 -0.000 inch diameter.

l. Make sure grommet is tight in fastener hole and does not rotate. No splits or cracks in flare are allowed and countersink edge shall be flush.

m. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).

n. Install Milson fastener.

o. Reinstall door 64.

14. **Door 69 Repair.** See figure 4. This repair may be done to prevent forward edge of door from drooping below mold line on 161705 THRU 162851, BEFORE F/A-18 AFC 89.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Repair Support (Fabricate)	2024-T3 Al Aly, 0.071 Sheet
Rivet, Solid (4)	NAS1097AD4
Sealing Compound	MIL-S-83430, Class B-4
Shim, Repair (Fabricate)	2024-T3 Al Aly, 0.040 Sheet

a. Open door 64 (A1-F18AC-LMM-010).

b. Remove door 69 from door 64.

c. On 161705 THRU 161719, do substeps:

(1) Drill out four existing fasteners where repair support will be attached.

(2) Fabricate two repair supports, detail C.

(3) Position and clamp repair supports to door.

(4) Mate drill existing fastener holes in door to each repair support.

(5) Enlarge holes to 0.128 +0.006 -0.000 diameter.

(6) Countersink and deburr holes.

d. On 161720 THRU 162852, do substeps.

(1) Locate and pilot drill four fastener holes in door, detail E.

(2) Fabricate two repair supports and two shims, details C and D.

(3) Position and clamp repair supports and shims to door.

(4) Enlarge pilot holes to 0.128 +0.006 -0.000 diameter.

(5) Countersink and deburr holes.

e. Apply primer to repair supports, shims and fastener holes (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

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f. Fay surface seal repair supports and shims and install wet with MIL-S-83430 sealing compound. For preparation and application of sealant (A1-F18AC-SRM-200, WP011 00).

g. Install NAS1097AD4 rivets wet with MIL-S-83430 sealing compound. For preparation and application of sealant (A1-F18AC-SRM-200, WP011 00).

h. Reinstall door 69 on door 64. For fasteners (A1-F18AC-SRM-440, FIG 009 00).

i. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

j. Close door 64 (A1-F18AC-LMM-010).

15. REPLACEMENT - METAL.

16. **DOOR 64.** See figure 5 for receptacles. For flare lock fasteners (A1-F18AC-SRM-440, FIG 009 00). Replace receptacles and flare lock fasteners (Milsen panel fasteners) (NAVAIR 01-1A-8). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

17. **DOOR 65.** See figure 6 for latch and rivets. For attaching hardware (A1-F18AC-SRM-440, FIG 009 00).

18. **Latch Adjustment.** See figure 6.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Spring Resiliency Tester	DPP-50

Materials Required

Nomenclature	Specification or Part Number
--------------	---------------------------------

Thread Lock 22221



Thread Lock

16

a. Retract adjusting screw, and apply thread lock to threads.

b. Using adjusting screw, adjust latch to dimension shown in section A within 20 minutes.

c. Readjust adjusting screw until a pressure of 10 to 15 pounds, to unlatch door, is met.

d. Use tester to check latch opening pressure.

e. Let set for 24 hours.

19. **DOOR 69.** See figure 7 for latch and hinge and latch attaching hardware. For attaching hardware (A1-F18AC-SRM-440, FIG 009 00).

20. **Latch Adjustment.** See figure 7.

Support Equipment Required

Nomenclature	Part Number or Type Designation
--------------	------------------------------------

Spring Resiliency Tester DPP-50

Materials Required

Nomenclature	Specification or Part Number
--------------	---------------------------------

Thread Lock 22221



Thread Lock

16

a. Retract adjusting screw, and apply thread lock to threads.

b. Using adjusting screw, adjust latch to dimension shown in section A within 20 minutes.

c. Readjust adjusting screw until a pressure of 10 to 15 pounds, to unlatch door, is met.

d. Use tester to check latch opening pressure.

e. Let set for 24 hours.

21. **DOOR 64 REMOVAL AND INSTALLATION.** See figure 1.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
--------------	---------------------------------

Sealing Compound MIL-S-83430, Class B-4

Wire, Safety, Non-electrical MS20995NC20

22. **Removal.**

a. Make sure electrical power is off (A1-F18AC-LMM-000).

b. Open door 64 (A1-F18AC-LMM-010).

c. Remove radome (A1-F18AC-760-300, WP015 00, WP013 00).

d. Disconnect and remove Low Band Antenna (AS-3418/ALQ-126) (A1-F18AC-760-300, WP015 00) or Mid Band Antenna (AS-3419/ALQ-126) (A1-F18AC-760-300, WP013 00).

e. Remove clamps attaching low/mid band antenna coax cable to door 64 and stow cable out of the way (A1-F18AC-760-300, WP038 00, WP039 00)

f. Disconnect AIM-7 antenna from antenna coax cable (60W-P526/60W-P527) (A1-F18AC-740-300, WP023 02, WP023 03).

g. Remove clamps attaching AIM-7 coax cables to door 64 and stow cables out of the way (A1-F18AC-740-300, WP022 00).

h. Disconnect jury strut.

i. Remove pins, (23, figure 1).

j. Support door assembly.

k. Remove hinge pins (21).

l. Remove door assembly.

23. Installation.

a. Make sure electrical power is off (A1-F18AC-LMM-000).

b. If new door is to be installed, go to step c. If original door is to be reinstalled, do substeps.

(1) Align door assembly hinge halves (22) with fuselage hinge halves (20) and install hinge pins (21).

(2) Install safety wire as hinge pin retainers in place of pins (23).

(3) Connect jury strut.

(4) Attach AIM-7 coax cable (60W-P526/60W-P527) to door (A1-F18AC-740-300, WP022 00).

(5) Connect coax cable (60W-P526/60W-P527) to AIM-7 antenna (A1-F18AC-740-300, WP023 02, WP023 03).

(6) Attach low band/mid band ALQ-126 coax cable to door (A1-F18AC-760-300, WP038 00, WP039 00).

(7) Install ALQ-126 antenna and connect ALQ-126 coax cable (A1-F18AC-760-300, WP013 00, WP015 00).

(8) Close door 64 (A1-F18AC-LMM-010).

c. Installation of new door is organizational maintenance, hole locating, drilling and installation of ALQ-126 antenna bracket, radome and quick release receptacle holes, are depot maintenance (WP017 01).

d. Remove engine (A1-F18AC-270-300, WP003 00).

e. Close door 68 (A1-F18AC-LMM-010).

f. Remove form-in-place seal from door 64 mating structure and forward skin of door 68 (A1-F18AC-SRM-500, WP010 00).



Care shall be taken during drilling not to enlarge existing holes. Enlarged holes may cause structural failure.

g. Remove milson fastener receptacles on door 64 mating structure and door 68 forward skin.

h. Install door 64 at hinges only.

i. Trim and fit door 64 (A1-F18AC-SRM-200, WP004 03).

j. Refinish trimmed area (A1-F18AC-SRM-500, WP036 00).

k. Support door 64 in closed position.

l. Back drill all mating holes to 0.377 +0.005 -0.000 inch diameter.

m. Open door 64 (A1-F18AC-LMM-010).

n. Countersink holes to 0.523 diameter x 100°. Do not countersink 74A330649 fairing mating holes (18).

o. Counterbore mating holes to 0.688 +0.010 -0.000 diameter x 0.035 +0.010 -0.000 deep, for milson fastener installation (NAVAIR 01-1A-8).

p. Touch up holes (A1-F18AC-SRM-500, WP036 00).

q. Install milson fastener receptacles on door 64 mating structure, figure 5 (NAVAIR 01-1A-8).

r. Install milson fasteners in door 64 (NAVAIR 01-1A-8). Do not install three fasteners attaching 74A330649 fairing (18), for fasteners (A1-F18AC-SRM-440, FIG 009 00) and figure 5, detail C.

s. Attach jury strut.

t. Manufacture and back drill 74A330601-2011 retainer (18A, figure 1). See figure 5, detail B.

u. Open the fastener holes in the 74A330601-2011 (18A) retainer to 0.391 +0.007 -0.000.

v. Drill six 0.1285 +0.003 -0.000 holes, for NAS1097AD-4-() rivets. Countersink rivet holes in the retainer, and door 64 outer surface. See figure 5, detail B.

w. Deburr and touch up holes (A1-F18AC-SRM-500, WP036 00).



Sealing Compound

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x. Fay surface seal retainer and door with MIL-S-83430 sealing compound, detail B. For preparation and application of sealant (A1-F18AC-SRM-200, WP011 00).

y. Install NAS1097AD-4-() rivets, length determined on installation, wet with MIL-S-83430 sealing compound, detail B. For preparation and application (A1-F18AC-SRM-200, WP011 00).

z. Install AIM-7 coax cable to door 64 (A1-F18AC-740-300, WP022 00).

aa. Install AIM-7 antenna in door 64, attach connector to antenna (A1-F18AC-740-300, WP023 02, WP023 03).

ab. Drill and install ALQ-126 antenna brackets (44, 45, figure 1), radome platenuts, and quick release receptacles (WP017 01).

ac. Install coherent absorbent (43). See Coherent Absorbent Replacement, this WP.

ad. Install missile transition fairing (18). See Missile Transition Fairing, 74A330649, Removal and Installation, this WP.

ae. Install ALQ-126 antenna (A1-F18AC-760-300, WP013 00, WP015 00).

af. Repair fire and thermal barrier coating (WP023 00).

ag. Install form-in-place sealing to all door 64 mating surfaces (A1-F18AC-SRM-500, WP010 00).

ah. Refinish door (A1-F18AC-SRM-500, WP036 00).

ai. Install engine (A1-F18AC-270-300, WP003 00).

24. **COHERENT ABSORBENT REPLACE-
MENT.** See figure 8.

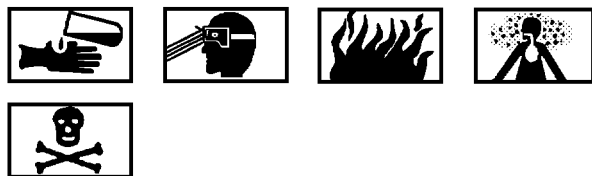
Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Apron, Utility	MIL-A-41829
Brush, Varnish	H-B-695 Type 1, Grade A
Cheesecloth	CCC-C-440, Type 1, Class 1
Coherent Absorbent	9417A
Gloves, Chemical	ZZ-G-381, Type 1, Style 1
Methyl Ethyl Ketone	TT-M-261
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-8802, Class B-4

a. Remove coherent absorbent and sealing compound with scraper.



Methyl Ethyl Ketone

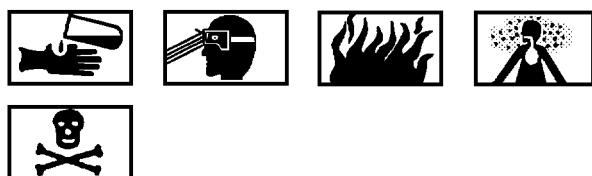
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b. Clean area with clean cheesecloth saturated with solvent.

c. While solvent is wet, wipe dry with clean cheesecloth.

NOTE

Allow surface to thoroughly dry for 3 to 5 minutes before applying sealing compound.



Sealing Compound

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NOTE

Sealing compound should not exceed 0.005 inch maximum.

d. Apply sealing compound with brush to structure, sealing compound preparation (A1-F18AC-SRM-200, WP011 00).

NOTE

Make sure no air is trapped between mating surfaces.

e. Install coherent absorbent to dimensions shown using even contact pressure and squeezing out excess sealing compound and entrapped air.

f. Cure sealing compound (A1-F18AC-SRM-200, WP011 00).

25. DAMAGE EVALUATION - FIBERGLASS. See figure 1.

26. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

27. **NEGLIGIBLE DAMAGE.** See figure 9. Negligible damage may be allowed to exist as is. Type and limits are listed:

a. Cuts, scratches, pits, erosion or abrasions that extend into or through any protective coating but do not penetrate the outer ply of the underlying laminate skin.

28. **REPAIRABLE DAMAGE.** See figure 10. Repairable damage is damage that can be permanently repaired with no adverse effect on structural integrity, flight characteristic, or safety of the aircraft. Any repairs not listed require a depot engineering disposition.

29. **Skin Surface Damage, Class I Damage.** See figure 10, section A. This class of damage does not require immediate repair but shall be repaired as soon as practical. Damage shall be monitored to make sure limits are not exceeded. This damage is damage which does not exceed the limits listed:

a. Dents, scuffs, pits, scratches, erosion, or abrasions.

(1) Do not penetrate through the first ply.

(2) Are a maximum of 20% of part surface area.

30. **Fiber Damage Around Fastener Holes And Edge Damage, Class II Damage.** See figure 10, section B. This damage is damage which does not exceed the limits listed:

a. Broken or missing fibers at fastener hole; not more than:

(1) 0.15 inches in depth.

(2) 0.25 inches in width.

(3) 1.00 inch in length.

b. Chipped, broken, or crushed edge not extending:

(1) 0.12 inches into edge.

(2) 4.00 inches along edge.

31. Skin Damage Without Penetration, Class III Damage. See figure 10, section C. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02). This damage is damage which does not exceed the limits listed:

a. Cuts, scratches, scuffs, nicks, or gouges which:

(1) Do not penetrate through two plies.

(2) Can be enclosed in a 4.0 inch diameter circle.

(3) Distance between damages is at least four times diameter of largest damage.

b. Delaminations which:

(1) Are not open to edge.

(2) Are between first and second plies.

(3) Can be enclosed in a 4.0 inch diameter circle.

(4) Distance between damage is at least four times diameter of largest damage.

32. Skin Delaminations Open to Edge of Part or at Fastener Holes. Class IV Damage. See figure 10, section D. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 02). This damage is damage which does not exceed the limits listed:

a. Delaminations open to edge at any depth which:

(1) Do not extend more than 1 inch from edge.

(2) Are no longer than 4.0 inches.

(3) Distance between damages is at least four times length of longest damage.

b. Delamination at fastener hole at any depth which can be enclosed in a 0.75 inch diameter circle.

33. Skin Damage Below Second Ply, Not Open to Edge of Part, Class VI Damage. See figure 10, section E. Determine size and location of delaminations or unbonds (A1-F18AC-SRM-300, WP008 02). This damage is damage which does not exceed the limits listed:

a. Delaminations or unbonds which:

(1) Can be enclosed in a 4.0 inch diameter circle.

(2) Distance between damages is four times diameter of largest damage.

b. Cuts, gouges, or dents which:

(1) Can be enclosed in a 4.0 inch diameter circle.

(2) Distance between damages is four times diameter of largest damage.

34. Skin Damage, Full Penetration, Class VII Damage. See figure 10, section F. This damage is damage which does not exceed the limits listed:

a. Can be enclosed in a 4.0 inch diameter circle.

b. A depot engineering disposition is required if repairs to this class damage overlap existing fasteners.

35. REPAIRS - FIBERGLASS.

36. Class I, II, III, IV, VI, and VII damages are organizational maintenance. Repair damages per the procedures referenced. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

a. Repair Class I damage (A1-F18AC-SRM-250, WP039 00).

b. Repair Class II damage (A1-F18AC-SRM-250, WP040 00).

c. Repair Class III damage (A1-F18AC-SRM-250, WP041 00).

d. Repair Class IV damage (A1-F18AC-SRM-250, WP042 00).

e. Repair Class VI damage (A1-F18AC-SRM-250, WP044 00).

f. Repair Class VII damage (A1-F18AC-SRM-250, WP045 00).

37. REPLACEMENT - FIBERGLASS.

38. MISSILE TRANSITION FAIRING, 74A330649, REMOVAL AND INSTALLATION. (18, figure 1).

39. Removal.

a. Open door 64 (A1-F18AC-LMM-010).

b. Remove three milson fasteners attaching fairing to door 64.

c. Remove fairing (18).

40. Installation.

a. If new fairing is to be installed, go to step

b. If original fairing is to be reinstalled, do substeps.

(1) Install three milson fasteners, figure 5, view D (NAVAIR 01-1A-8). For fasteners, see (A1-F18AC-SRM-440, FIG 009 00).

(2) Close door 64 (A1-F18AC-LMM-010). Do not tighten the three milson fasteners attaching fairing to door 64.

(3) Align fairing to forward missile fairing and ALQ-126 radome and tighten the three milson fasteners securing fairing to door 64. See (A1-F18AC-SRM-200, WP008 00).

b. Close door 64 (A1-F18AC-LMM-010).

c. Trim fairing to fit. Make sure fairing is aligned with forward missile fairing and ALQ-126 radome (A1-F18AC-SRM-200, WP004 03, WP008 00).

d. Touch up trimmed area (A1-F18AC-SRM-500, WP036 00).

e. Open door 64 and install fairing to door 64 with milson fasteners. Figure 5, detail D (NAVAIR 01-1A-8). For fasteners, see (A1-F18AC-SRM-440, FIG 009 00).

f. Close door 64 (A1-F18AC-LMM-010). Do not tighten the three fairing attaching fasteners.

g. Align fairing to forward missile fairing and ALQ-126 radome and tighten the three milson fasteners. See (A1-F18AC-SRM-200, WP008 00) for gap limits.

h. Touch up fairing (A1-F18AC-SRM-500, WP036 00).

Table 1. Negligible Damage Limits

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Former Zone A1	All	0.002	0.002	100%	0.062	NA
Fig 1 (2)	Former Zone B3	0.071	0.0006	0.0006	100%	0.031	NA
Fig 1 (3)	Former Zone B3	0.071	0.0006	0.0006	100%	0.025	NA
Fig 1 (4)	Former Zone B3	0.063	0.0006	0.0006	100%	0.025	NA

Table 1. Negligible Damage Limits (Continued)




Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (5)	Former Zone B3	0.063	0.0006	0.0006	100%	0.025	NA
Fig 1 (6)	Former Zone A1 Zone A1	0.125 0.080	0.002 0.002	0.002 0.002	100% 100%		NA NA
Fig 1 (7)	Stringer Zone B2	0.080	0.0006	0.0006	100%	0.040	NA
Fig 1 (8)	Stringer Zone B2	0.080	0.0006	0.0006	100%	0.040	NA
Fig 1 (9)	Stringer Zone B2	0.080	0.0006	0.0006	100%	0.040	NA
Fig 1 (10)	Former Zone B3	0.063	0.0006	0.0006	100%	0.031	NA
Fig 1 (11)	Stringer Zone B3	0.080	0.0006	0.0006	100%	0.040	NA
Fig 1 (12)	Former Zone A1 Zone A1	0.125 0.080	0.002 0.002	0.002 0.002	100% 100%		NA NA
Fig 1 (13)	Fitting Zone B3	0.080	0.0006	0.0006	100%	0.040	NA
Fig 1 (14)	Former Zone A1 Zone A1	0.125 0.080	0.002 0.002	0.002 0.002	100% 100%	0.062 	NA NA
Fig 1 (15)	Plate Zone A1	0.063	0.002	0.002	100%	0.031	NA
Fig 1 (16)	Stringer Zone B3	0.080	0.0006	0.0006	100%	0.040	NA
Fig 1 (17)	Support Zone B2	0.094	0.0006	0.0006	100%	0.040	NA

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Former Zone A1 Zone A1	0.125 0.080	0.016 0.016	0.016 0.016	25% 25%	0.016 0.016	25% 25%
Fig 1 (2)	Former Zone B3	0.071	0.010	0.010	25%	0.010	25%
Fig 1 (3)	Former Zone B3	0.071	0.010	0.010	25%	0.010	25%
Fig 1 (4)	Former Zone B3	0.063	0.010	0.010	25%	0.010	25%
Fig 1 (5)	Former Zone B3	0.063	0.010	0.010	25%	0.010	25%
Fig 1 (6)	Former Zone A1 Zone A1	0.125 0.080	0.016 0.016	0.016 0.016	25% 25%	0.016 0.016	25% 25%
Fig 1 (7)	Stringer Zone B2	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (8)	Stringer Zone B2	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (9)	Stringer Zone B2	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (10)	Former Zone B3	0.063	0.010	0.010	25%	0.010	25%
Fig 1 (11)	Stringer Zone B3	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (12)	Former Zone A1 Zone A1	0.125 0.080	0.016 0.016	0.016 0.016	25% 25%	0.016 0.016	25% 25%
Fig 1 (13)	Fitting Zone B3	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (14)	Former Zone A1 Zone A1	0.125 0.080	0.016 0.016	0.016 0.016	25% 25%	0.016 0.016	25% 25%
Fig 1 (15)	Plate Zone A1	0.063	0.010	0.010	100%	0.010	100%
Fig 1 (16)	Stringer Zone B3	0.080	0.016	0.016	25%	0.016	25%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (17)	Support Zone B2	0.094	0.016	0.016	25%	0.016	25%
Fig 1 (20)	Skin						
	Zone A2	0.038	0.007	0.007	40%	0.007	40%
	Zone A2	0.070	0.014	0.014	40%	0.014	40%
	Zone A2	0.045	0.009	0.009	40%	0.009	40%
	Zone A2	0.090	0.018	0.018	40%	0.018	40%
	Zone A2	0.125	0.025	0.025	40%	0.025	40%
	Zone A2	0.160	0.032	0.032	40%	0.032	40%
	Zone B2	0.038	0.007	0.007	40%	0.007	40%
	Zone B2	0.070	0.014	0.014	40%	0.014	40%
	Zone B2	0.125	0.025	0.025	40%	0.025	40%
	Zone C2	0.038	0.002	0.002	25%	0.002	25%
	Zone A3	0.038	0.007	0.007	25%	0.007	25%
	Zone A3	0.070	0.014	0.014	25%	0.014	25%
	Zone B3	0.045	0.009	0.009	25%	0.009	25%
	Zone B3	0.160	0.032	0.032	25%	0.032	25%
	Zone B3	0.038	0.007	0.007	25%	0.007	25%
	Zone B3	0.070	0.014	0.014	25%	0.014	25%
	Zone B3	0.125	0.025	0.025	25%	0.025	25%
	Zone C3	0.038	0.002	0.002	25%	0.002	25%
Fig 1 (34)	Hinge Zone A1	0.070	0.014	0.014	100%	0.014	100%
Fig 1 (36)	Hinge Zone A1	0.070	0.014	0.014	100%	0.014	100%
Fig 1 (39)	Door 69 Zone A1	0.071	0.014	0.014	100%	0.014	100%
Fig 1 (41)	Shim Zone A1	0.050	0.010	0.010	100%	0.010	100%
Fig 1 (42)	Hinge Zone A1	0.044	0.008	0.008	100%	0.008	100%
Fig 1 (44)	Former Zone B3	All	0.016	0.016	40%	0.016	40%
Fig 1 (45)	Former Zone B3	All	0.016	0.016	25%	0.016	25%

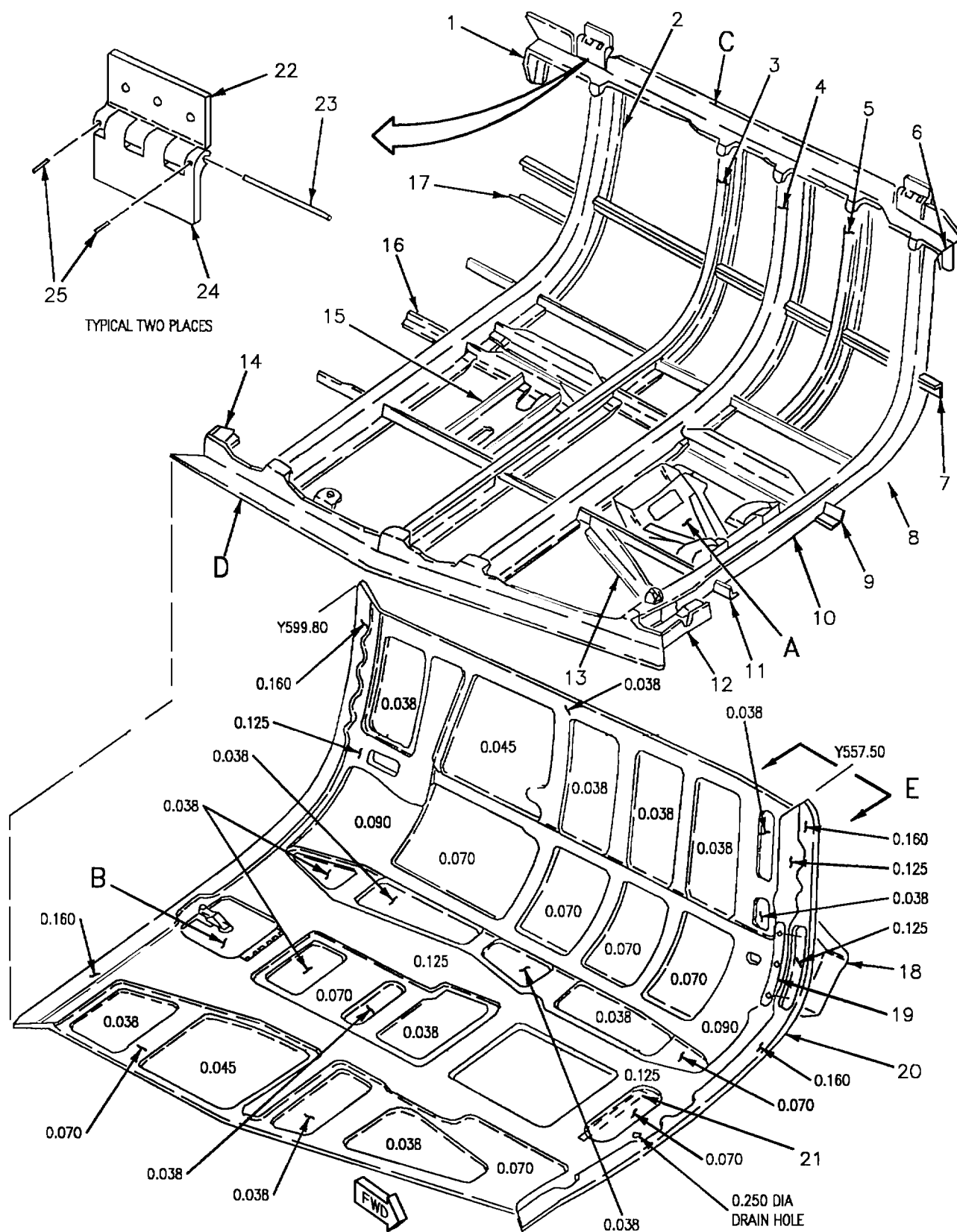


Figure 1. Material Index (Sheet 1)

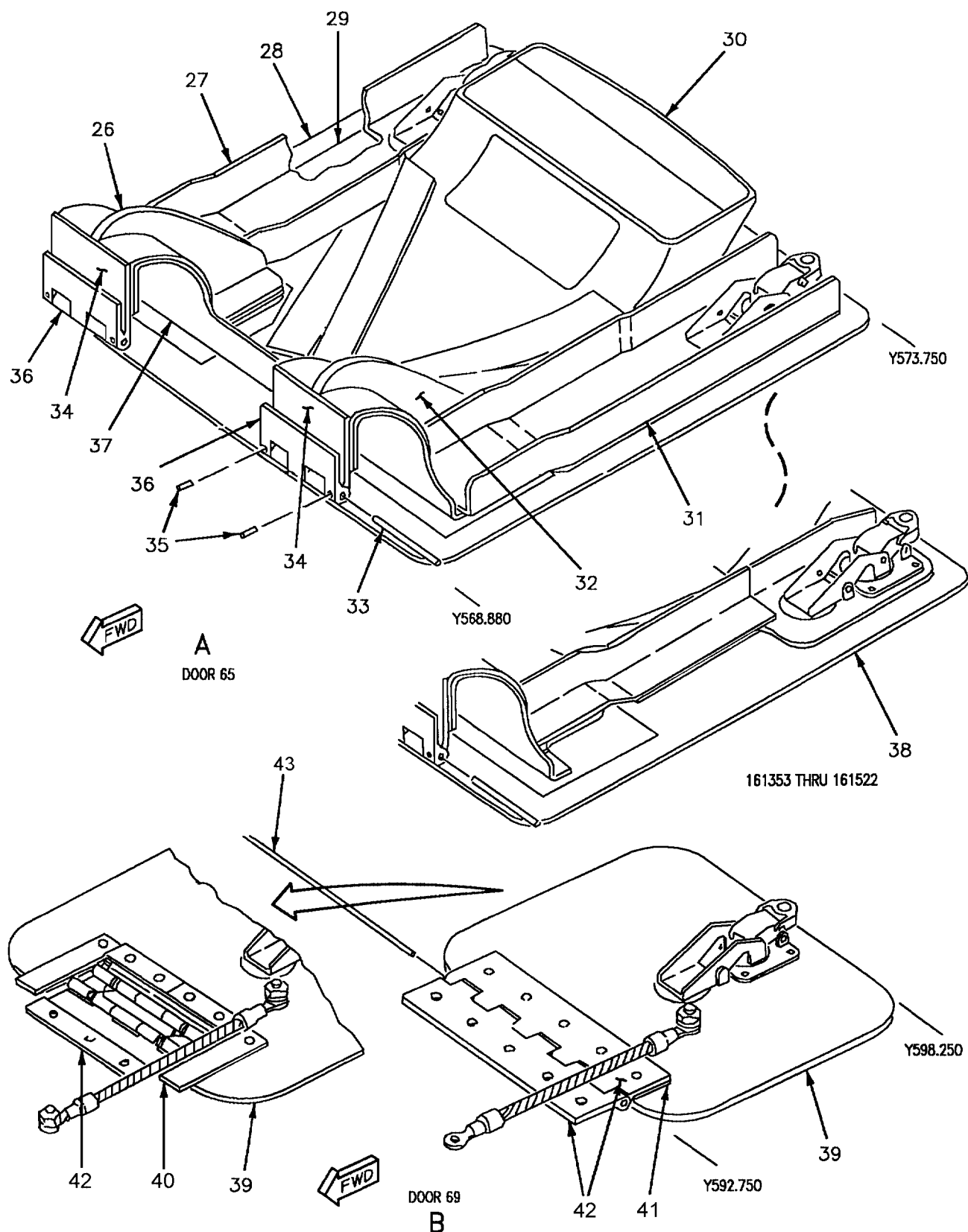


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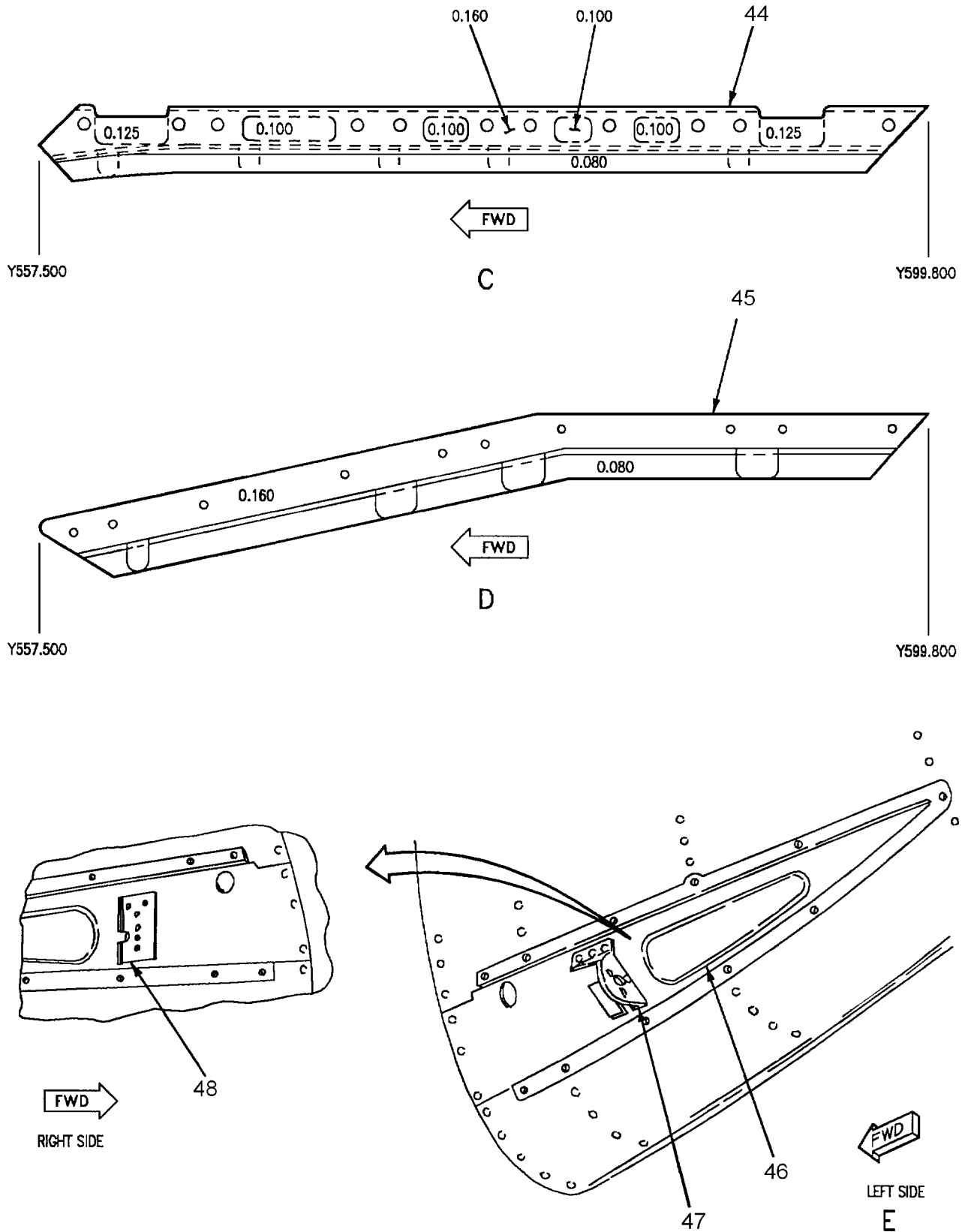


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


















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3	  	Former 74A331623-2005, -2006 74A331623-2007, -2008 74A331623-2009, -2010	0.071 Sheet 0.050 Sheet	7075-T62 Al Aly
4	     	Former 74A330604-2009, -2010 74A330604-2013, -2014 74A330604-2011, -2012 74A330604-2015, -2016 74A330604-2017, -2018 74A330604-2019, -2020	0.063 Sheet 0.050 Sheet	7075-T62 Al Aly
5	 	Former 74A330627-2001, -2002 74A330627-2003, -2004	0.063 Sheet 0.050 Sheet	7075-T62 Al Aly
6		Former 74A330625-2005, -2006	1MA100D01-10349 Extr	7075-T76 Al Aly
7		Stringer 74A330630-2009, -2010	1MA100D01-10359 Extr	7075-T76 Al Aly
8	 	Stringer 74A330629-2005, -2006 74A330629-2007, -2008	1MA100D01-10359 Extr	7075-T76 Al Aly
9		Stringer 74A330623-2007, -2008	1MA100D01-10359 Extr	7075-T76 Al Aly
10	   	Former 74A330603-2017, -2018 74A330603-2019, -2020 74A330603-2021, -2022 74A330603-2023, -2024	0.063 Sheet	7075-T62 Al Aly
11		Stringer 74A330624-2005, -2006	1MA100D01-10359 Extr	7075-T76 Al Aly
12		Former 74A330625-2007, -2008	1MA100D01-10349 Extr	7075-T76 Al Aly
13		Fitting 74A330609-2005, -2006	Machined Bar	7075-T73511 Al Aly

Figure 1. Material Index (Sheet 4)













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16		Stringer 74A330628-2005, -2006	1MA100D01-10359 Extr	7075-T76 Al Aly
17		Support 74A330608-2003, -2004	1MA160D06-10066 Extr	7075-T76511 Al Aly
18 L R R	 	Fairing 74A330649-1001 74A330649-1002 74A330649-1004	Laminate Plies, 0.011	Glass Cloth/Epoxy
19		Retainer 74A330601-2011	0.032 Sheet	7075-T6 Al Clad
20 L R L R	      	Skin 74A330602-2015, -2018 74A330602-2021, -2022 74A330602-2023, -2024 74A330602-2027 74A330602-2028 74A330602-2025 74A330602-2026	 Sheet	7075-T76 Al Aly
21		Plate 74A330601-2013	0.020 Sheet	6Al-4V Ti Anl
22		Hinge Half 74A330606-2001	1MA10409D05 Extr	7075-T73511 Al Aly
23		Hinge Pin MS20253P5-219	0.129 Dia Wire	Cres
24		Hinge Half 74A330639-2001	1MA10408D05 Extr	7075-T73511 Al Aly
25		Pin MS16562-4	1/16 Diameter	Steel
26		Former 74A330643-2037, -2038	Laminate Plies, 0.011	Glass Cloth/Epoxy
27		Channel 74A330648-2007, -2008	0.050 Sheet	7075-T62 Al Aly
28		Door 65 4A330643-2039, -2040	0.070 Laminate Plies, 0.011	Glass Cloth/Epoxy

Figure 1. Material Index (Sheet 5)




















Idx No.	Eft	Nomenclature and Part No.	Description	Material
29		Doubler 74A330643-2041	0.060 Laminate Plies, 0.011	Glass Cloth/Epoxy
30		Duct 74A330643-2031	0.060 Laminate Plies, 0.011	Glass Cloth/Epoxy
31		Channel 74A330648-2005, -2006	0.050 Sheet	7075-T62 Al Aly
32		Former 74A330643-2035, -2036	Laminate Plies, 0.011	Glass Cloth/Epoxy
33		Hinge Pin MS20253P2-170	0.089 Dia Wire	Cres
34		Hinge Half 74A330644-2003	MS20001PX12-200	2024-T4 Al Aly
35		Pin MS16562-2	1/16 Diameter	Steel
36		Hinge Half 74A330644-2005	MS2000PY12-200	2024-T4 Al Aly
37		Beam 74A330643-2033, -2034	 Laminate Plies, 0.011	Glass Cloth/Epoxy
38		Stiffener 74A330643-9007, -9008	0.040 Sheet	7075-T6 Al Aly
39	     	Door 69 74A331635-2005, -2006 74A331635-9007, -9008 139012-3, -4 74A331635-2011, -2012 139012-1, -2 74A331635-2013, -2014	0.071 Sheet	7075-T6 Alclad
40		Support 74A331635-2015	0.050 Sheet	302 Cres
41		Shim 74A331635-2003	0.050 Sheet	7075-T6 Al Aly
42	   	Hinge MS20001PH6-450 74A331635-2009 H6300K2054 Hinge Assembly H3105-1	Extrusion 0.040 Sheet Machined	2024-T4 Al Aly 302 Cres 2024-T8511 Al Aly

Figure 1. Material Index (Sheet 6)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
43		Hinge Pin MS20253P2-465	0.089 Dia Wire	302 Cres
44	 	Former 74A330619-2005, -2006 74A330619-2007, -2008	1MA10388-D01 Extr	7075-T76 Al Aly
45	 	Former 74A330618-2003, -2004 74A330618-2005, -2006	1MA10388-D01 Extr	7075-T76 Al Aly
46		Absorbent Coherent 9417A	0.10 Sheet	Polysulfide
47 L		Bracket ALQ-126 74A885638-2005	0.063 Sheet	6061-T62 Al Aly
48 R		Bracket ALQ-126 74A885638-2007	0.063 Sheet	6061-T62 Al Aly

LEGEND
























-  0.160 stock size machined to thicknesses shown.
-  161353 THRU 161522.
-  161523 AND UP.
-  161353 THRU 161704.
-  161705 THRU 162851.
-  161353 THRU 161520.
-  161521 THRU 161704.
-  161353 THRU 161707.
-  161708 THRU 161761.
-  161705 THRU 161719 BEFORE F/A-18 AFC 89.
-  161720 THRU 162851 BEFORE F/A-18 AFC 89.
-  161353 THRU 161761.
-  161924 AND UP.
-  161705 THRU 161741.
-  161742 AND UP.
-  161353 THRU 161741.
-  F/A-18A 161925 THRU 162414, 162421, 162428, 162436, 162443, 162451, 162459, 162467, 162468; F/A-18B 161924 THRU 162413.
-  F/A-18A 162415 THRU 162420, 162422 THRU 162426, 162429 THRU 162435, 162437 THRU 162442, 162444 THRU 162450, 162452 THRU 162458, 162460 THRU 162466, 162469 THRU 162852; F/A-18B 162419 THRU 162850.
-  161924 THRU 161987.
-  162394 THRU 162852.
-  162401 AND UP. Plate is bonded to skin with EA934 adhesive.
-  161742 THRU 162448, 162451, 162459, 162467, 162468.
-  162449, 162450, 162452 THRU 162458, 162460 THRU 162466, 162469 THRU 162864, 162867 THRU 162869.

Figure 1. Material Index (Sheet 7)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
24		161353 THRU 162472.		
25		162473 AND UP.		
26		162853 AND UP.		
27		161924 THRU 162861.		
28		162449, 162450, 162452 THRU 162458, 162460 THRU 162466, 162469 THRU 162863, 162867 THRU 162869.		
29		162852 AND UP.		
30		162865, 162866, 162870 AND UP.		
31		162864 THRU 162866, 162870 AND UP.		
32		162862 AND UP.		
33		162853 THRU 163092, 163094 THRU 163102.		
34		163093, 163103 AND UP.		
35		Beam has two major thicknesses, 0.060 and 0.120.		
36		161353 THRU 163168.		
37		163169 AND UP.		
38		161705 THRU 161719 AFTER F/A-18 AFC 89.		
39		161720 THRU 162851 AFTER F/A-18 AFC 89.		

Figure 1. Material Index (Sheet 8)

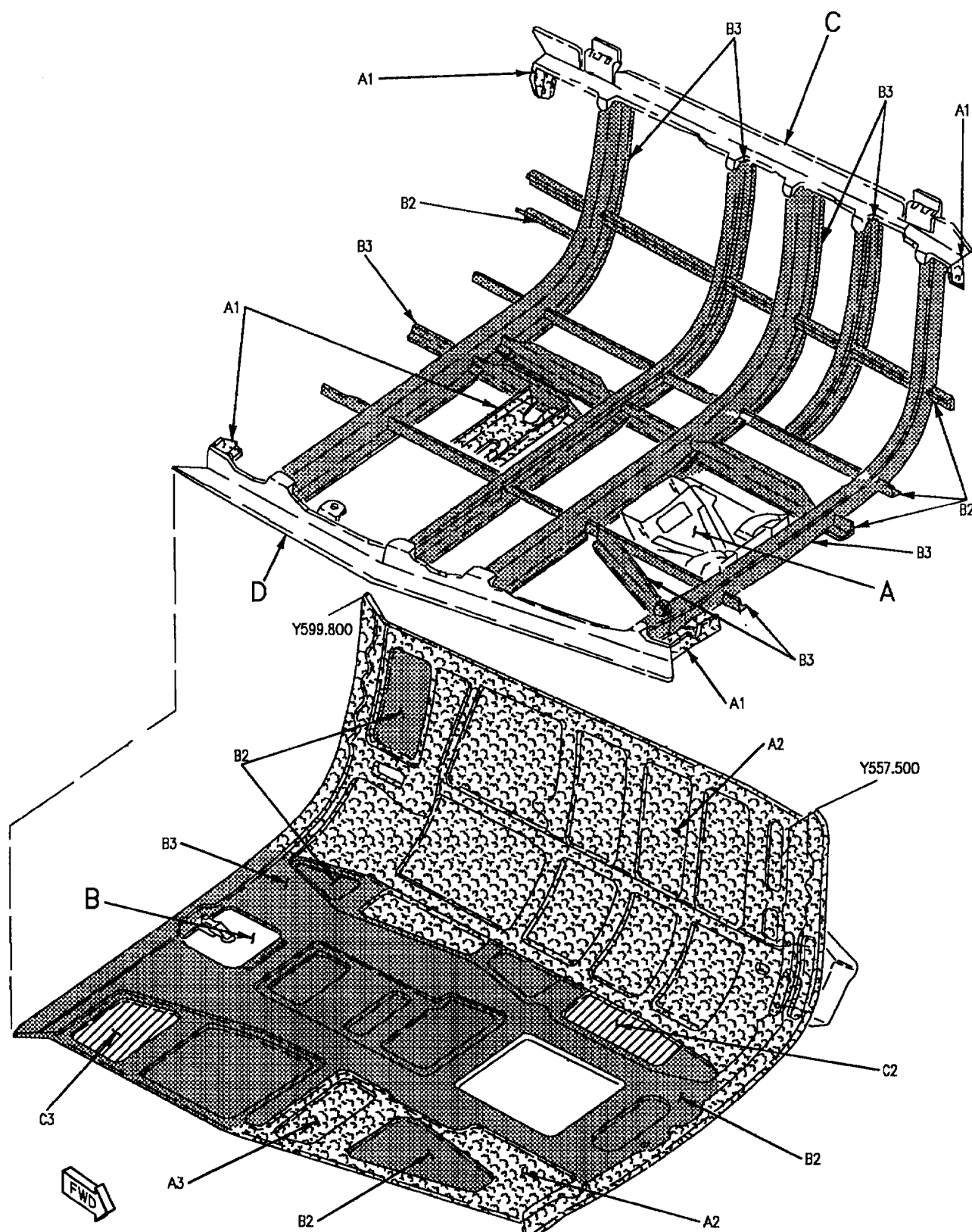


Figure 2. Repair Zones (Sheet 1)

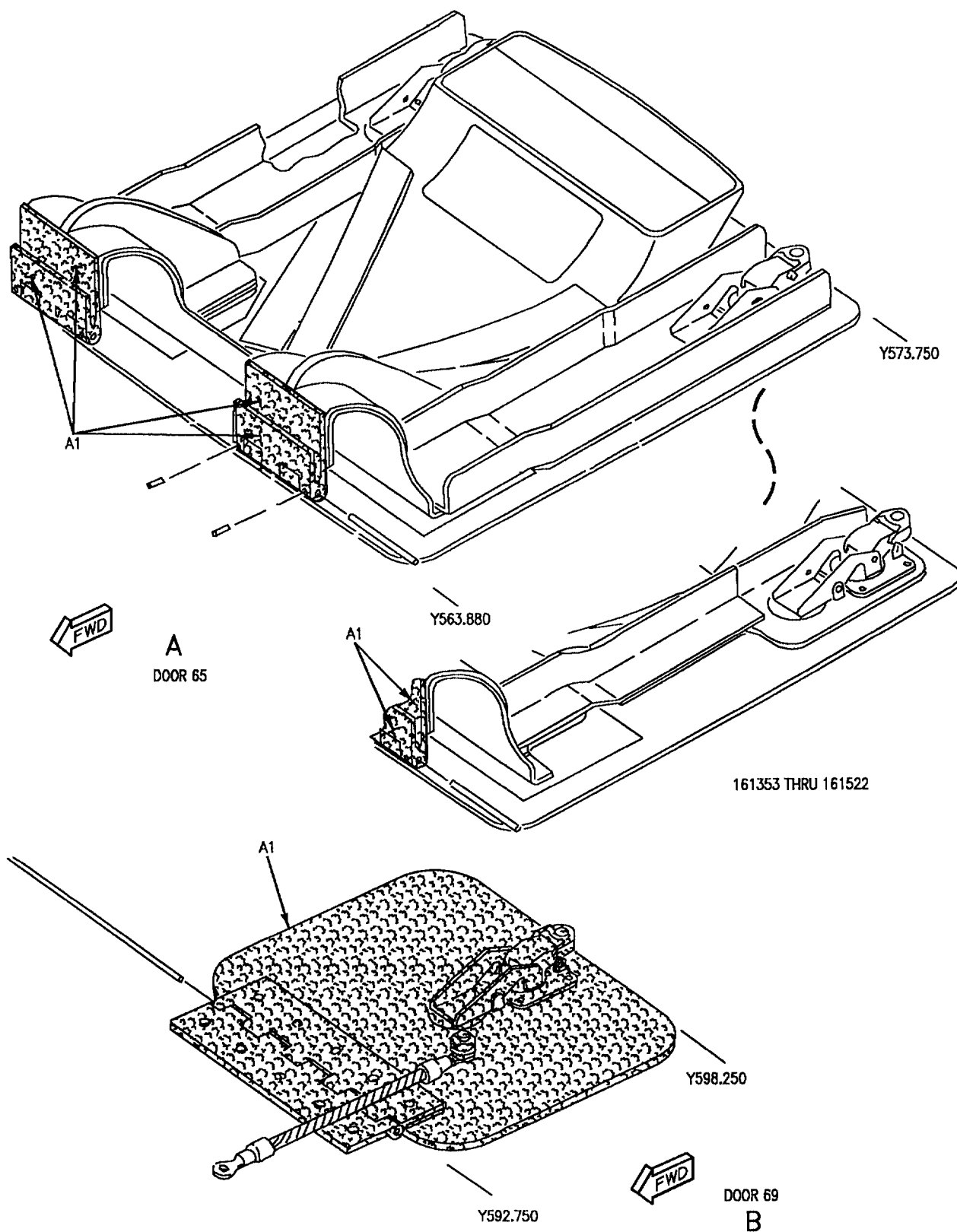


Figure 2. Repair Zones (Sheet 2)

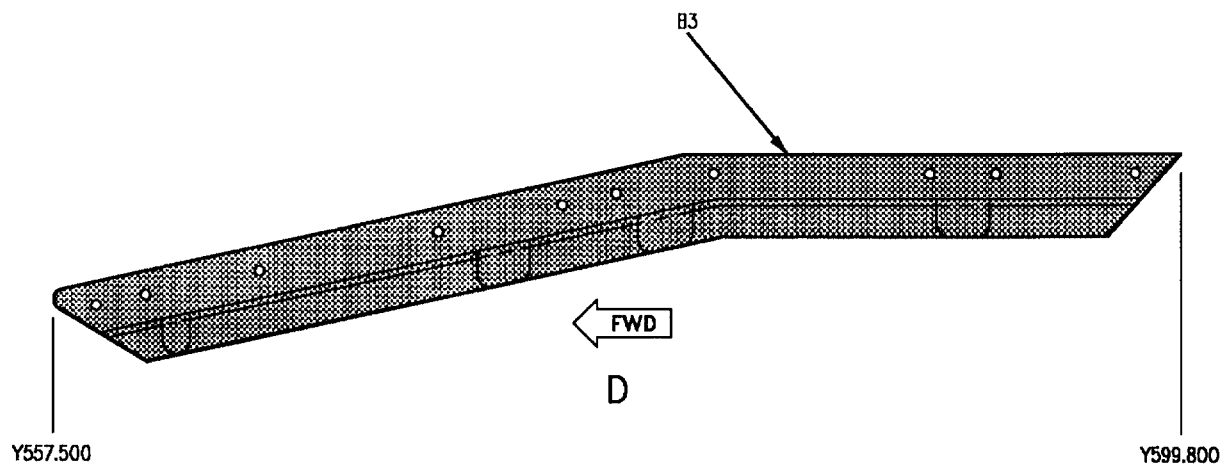
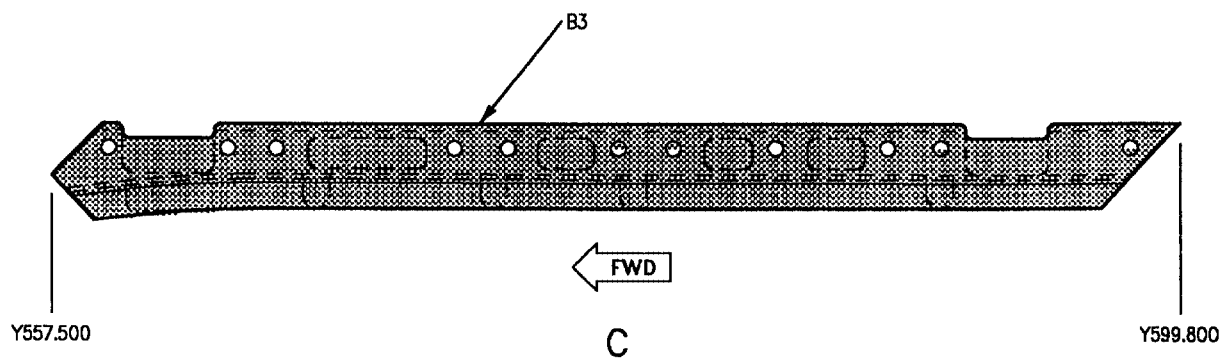
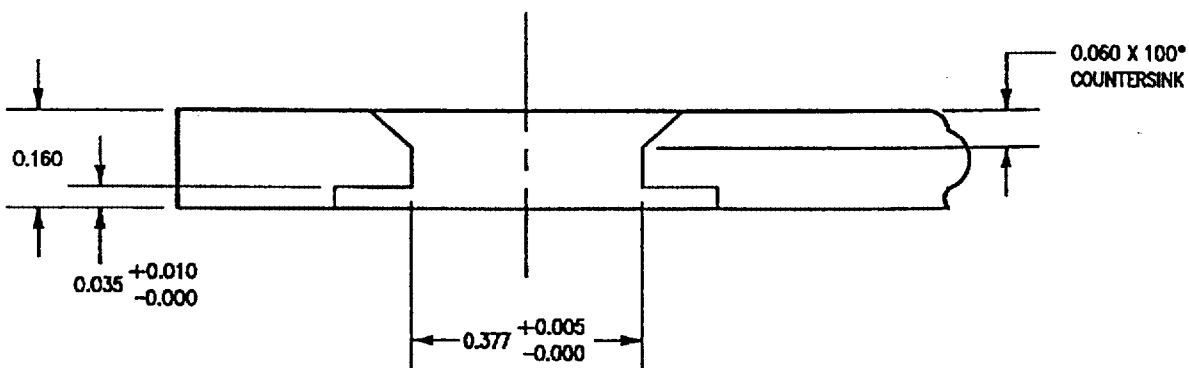
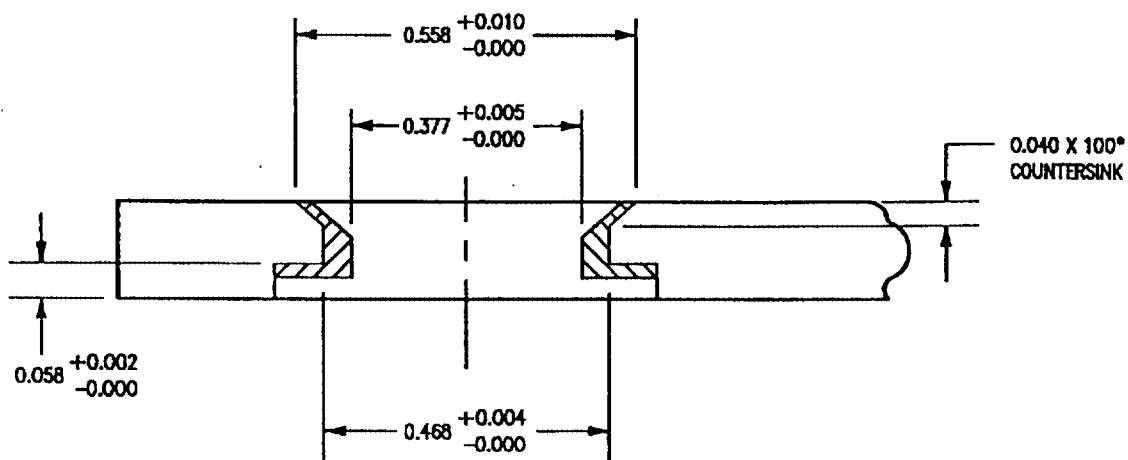


Figure 2. Repair Zones (Sheet 3)



STANDARD FASTENER HOLE



HOLE WITH GROMMET INSTALLED

Figure 3. Fastener Hole Repair

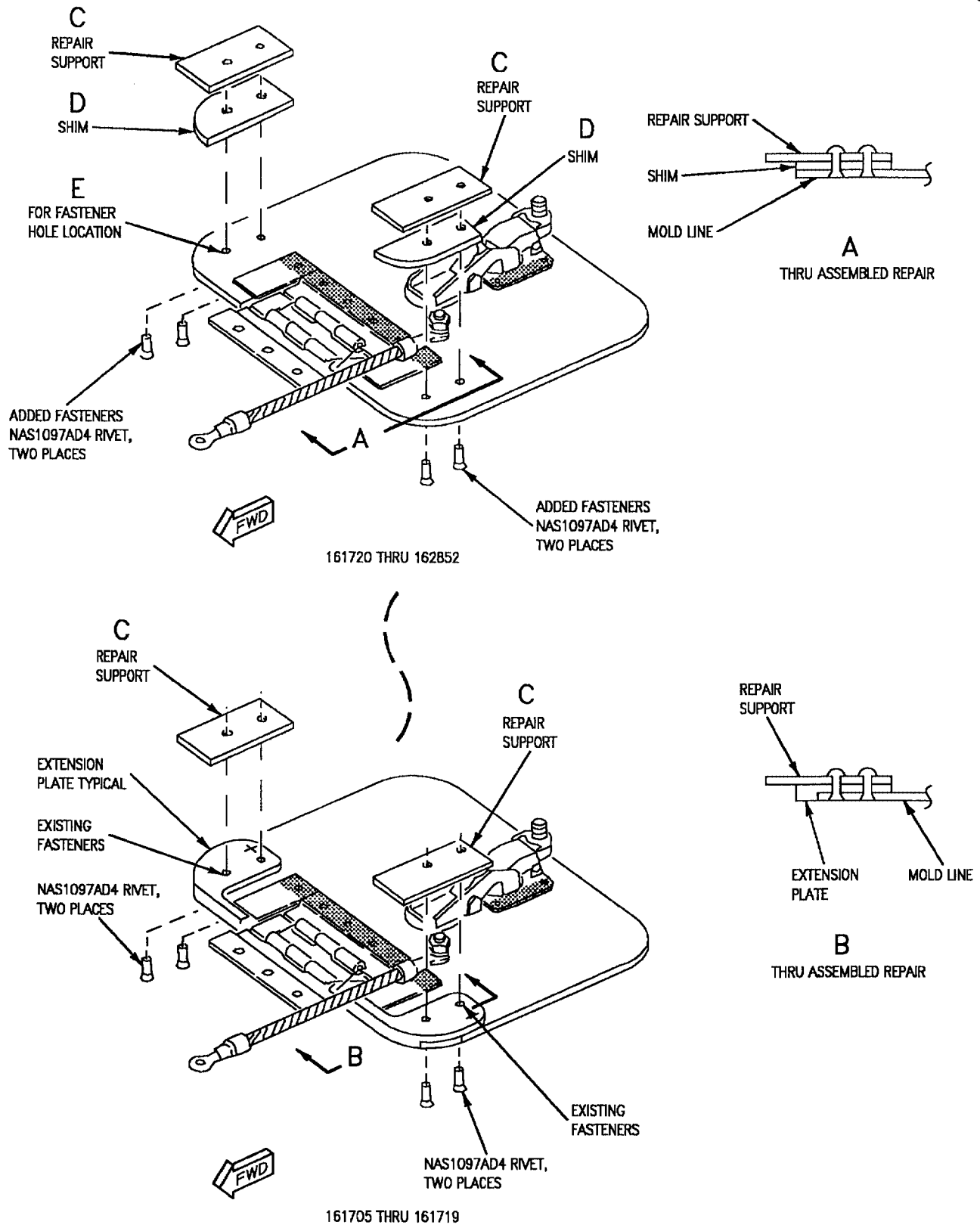
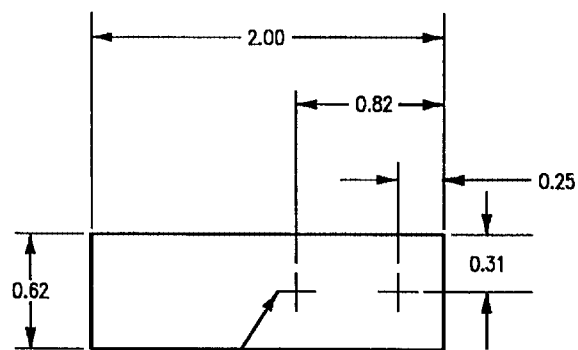


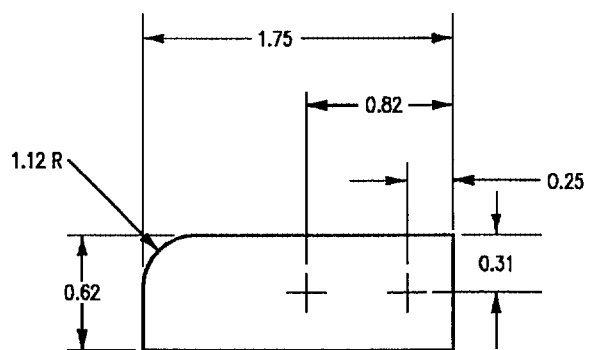
Figure 4. Door 69 Repair (Sheet 1)



MARK FASTENER
HOLE LOCATION

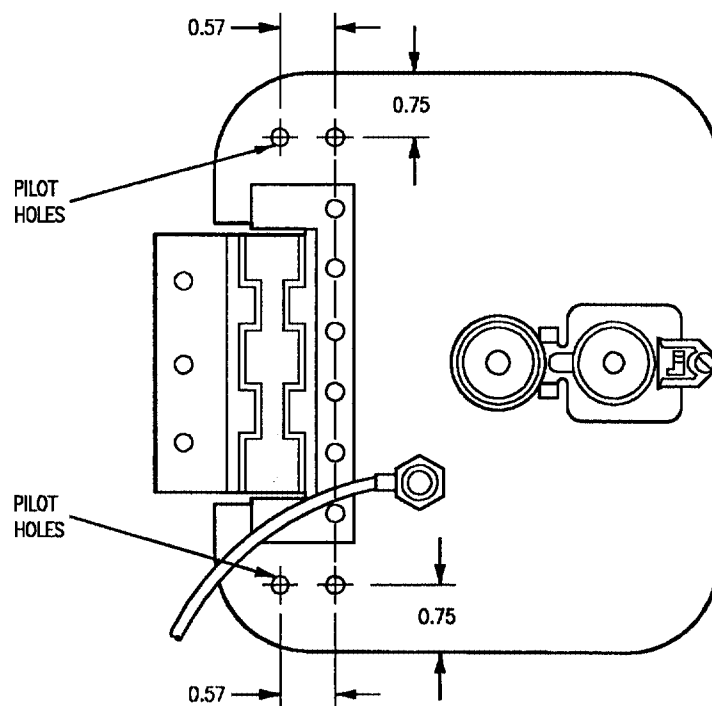
C

REPAIR SUPPORT
MATERIAL -0.071 SHEET
2024-T3 AL ALY



D

REPAIR SHIM
MATERIAL -0.040 SHEET
2024-T3 AL ALY



E

Figure 4. Door 69 Repair (Sheet 2)

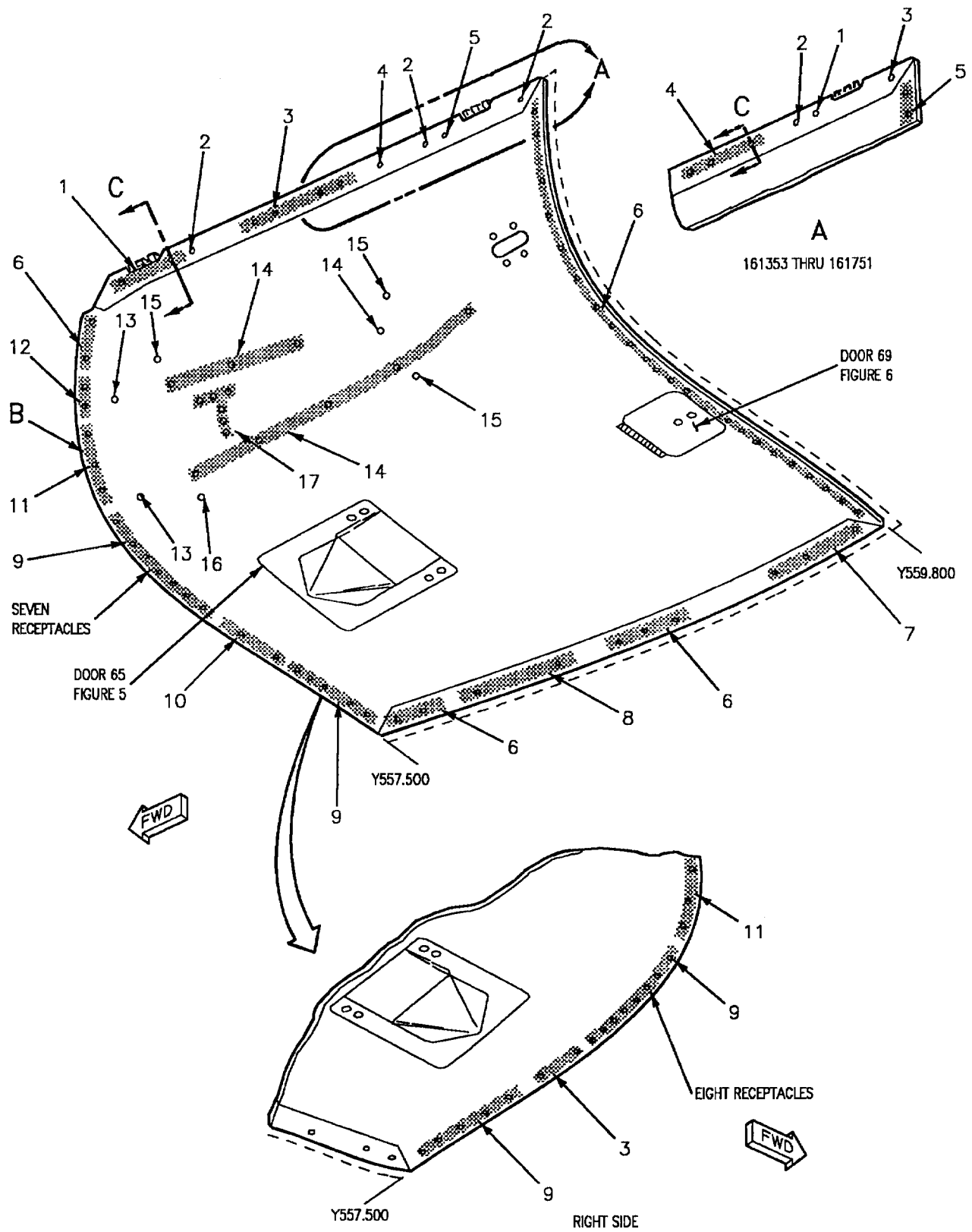


Figure 5. Door 64 Replacement (Sheet 1)

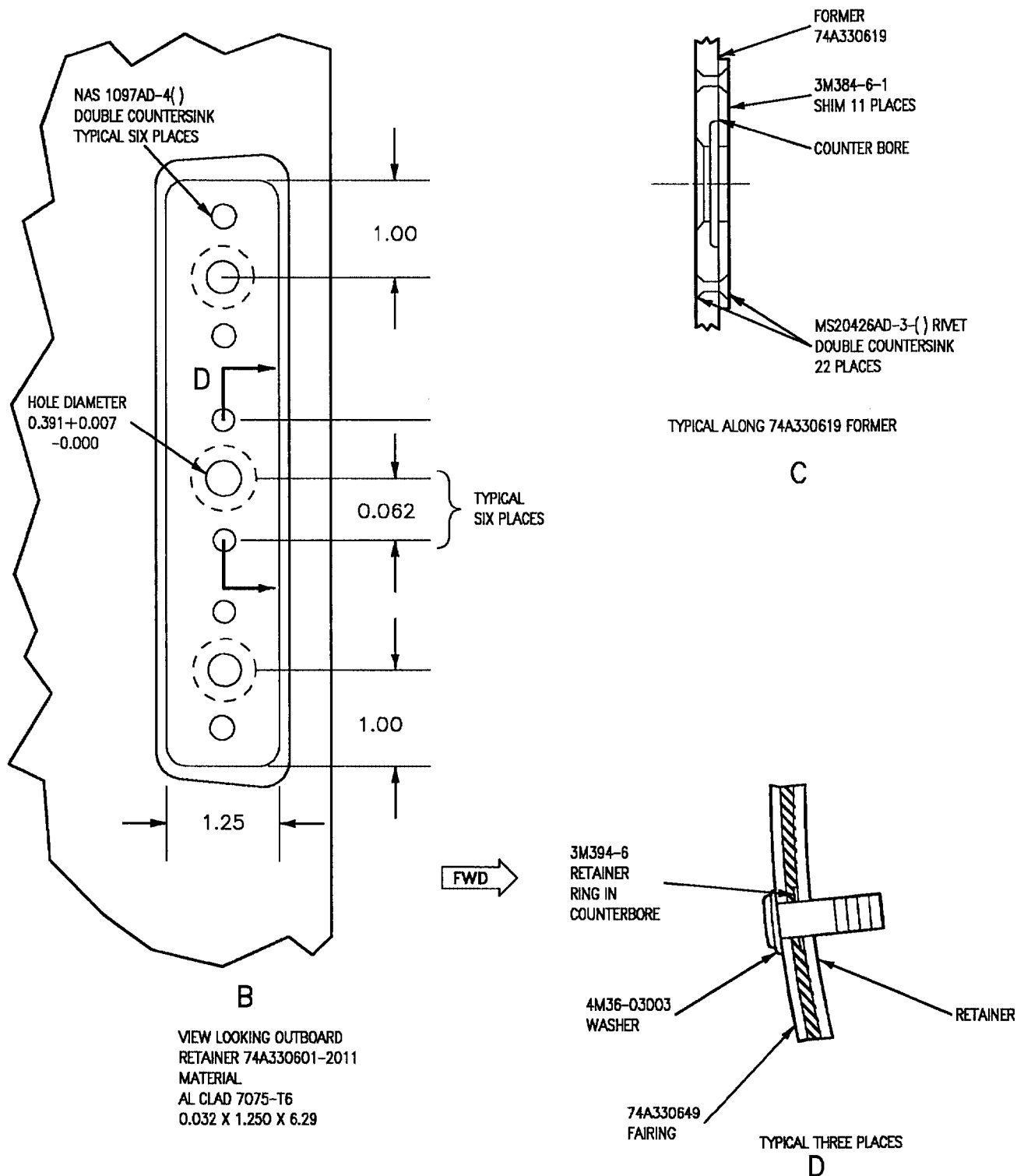









































Figure 5. Door 64 Replacement (Sheet 2)

Idx No.	Eft		Nomenclature	Part Number
1			Receptacle  Shim 	1950-6-4-7 3M384-6-1
2			Receptacle  Shim 	1950-6-8-3 3M384-6-1
3			Receptacle  Shim 	1950-6-10-0 3M384-6-1
4			Receptacle  Shim 	1950-6-11-0 3M384-6-1
5			Receptacle  Shim 	1950-6-6-5 3M384-6-1
6			Receptacle 	1950-6-10-1
7			Receptacle 	1950-6-9-1
8			Receptacle 	1950-6-8-2
9			Receptacle 	1950-6-9-2
10			Receptacle	1950-6-10-0
11		 	Receptacle  Retainer	1950-6-9-2 74A330601-2011
12			Receptacle 	1950-6-8-2
13			Plate Nut 	BFN443-3-1
14			Plate Nut 	BFN443-3-2
15			Receptacle 	LW1764-4C1-070
16			Receptacle 	LW1764-4C1-090
17			Rivet	MS2047AD-6-()

LEGEND










-  Hole diameter is 0.377 +0.005 -0.000.
-  Hole diameter in retainer is 0.391 +0.007 -0.000.
-  Attached with NAS1399D4A2 rivets on 161353 THRU 161751, and M7885-3-4-2 rivets on 161752 AND UP. Length determined on installation.
-  Attached with NAS1399D4A3 rivets, length determined on installation.
-  Attached with NAS1399D4A4 rivets, length determined on installation.
-  Attached with NAS1399D4A5 rivets, length determined on installation.
-  Attached with NAS1097AD4 rivets on 161353 THRU 161751, and M7885-3-4-9 rivets on 161752 AND UP. Length determined on installation.
-  Attached with NAS1399D4A5 rivets on 161353 THRU 161751, and M7885-3-4-5 rivets on 161752 AND UP. Length determined on installation.
-  Attached with NAS1399D4A3 rivets on 161353 THRU 161751, and M7885-3-4-3 rivets on 161752 AND UP. Length determined on installation.

Figure 5. Door 64 Replacement (Sheet 3)

Idx No.	Eft		Nomenclature	Part Number
10			Attached with M7885-3-4-7 rivets, length determined on installation.	
11			161752 AND UP.	
12			Hole diameter is 0.187 +0.004 -0.000. Rivet length determined on installation.	
13			Hole diameter is 0.257 +0.006 -0.000.	
14			Hole diameter is 0.391 +0.007 -0.000.	
15			Attached with MS20426AD3 rivets, double countersink, length determined on installation. See detail C.	

Figure 5. Door 64 Replacement (Sheet 4)

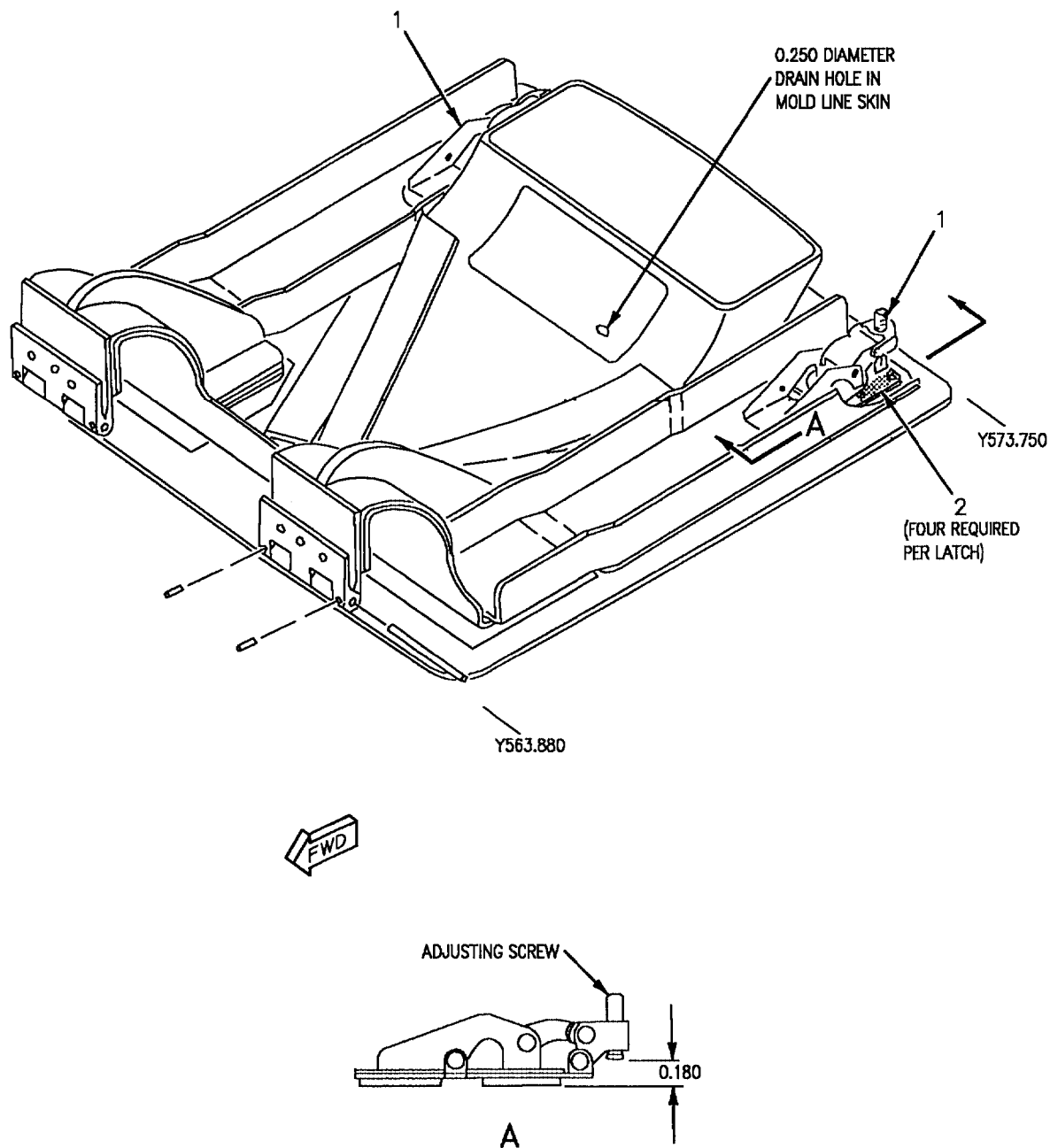


Figure 6. Door 65 Replacement (Sheet 1)



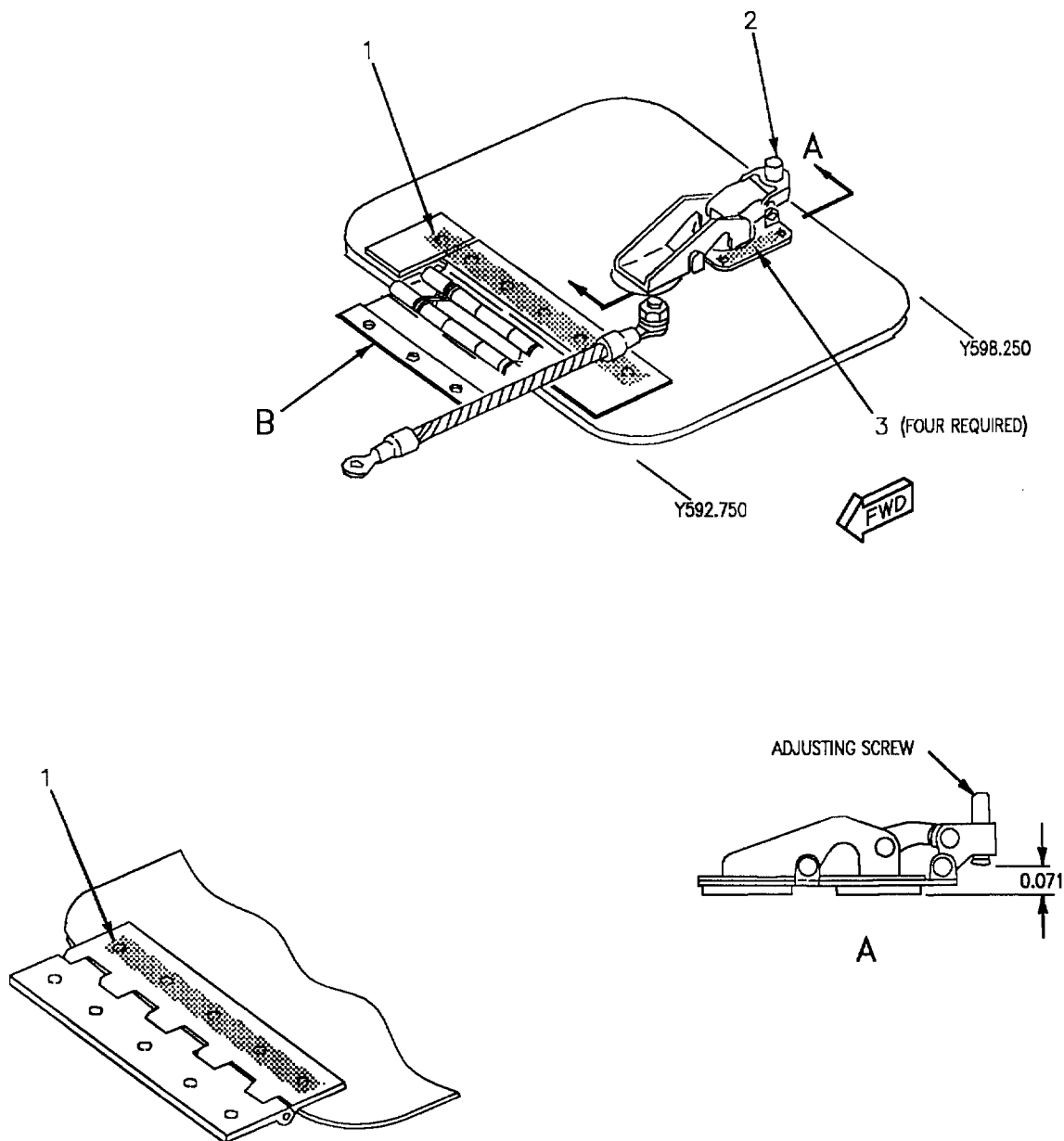
Idx No.	Eft		Nomenclature	Part Number
1			Latch	H620-1S180C
2			Rivet	MS20426B4-5
LEGEND				
 Hole diameter is 0.128 +0.005 -0.000.				

Figure 6. Door 65 Replacement (Sheet 2)



161353 THRU 161704

Figure 7. Door 69 Replacement (Sheet 1)

Idx No.	Eft		Nomenclature	Part Number
1	<div>2</div> <div>2</div> <div>3</div>	<div>1</div> <div>1</div>	Rivet Shim Rivet <div>4</div>	BRFS4AD 74A331635-2003 BRFZ4E
2			Latch	H620-1S071C
3		<div>1</div>	Rivet	CSR902B-4-4
<p style="text-align: center;">LEGEND</p> <div>1</div> Hole diameter is 0.128 +0.006 -0.000. <div>2</div> 161353 THRU 161704. <div>3</div> 161705 AND UP. <div>4</div> Preferred replacement for BRFS4AD.				

Figure 7. Door 69 Replacement (Sheet 2)

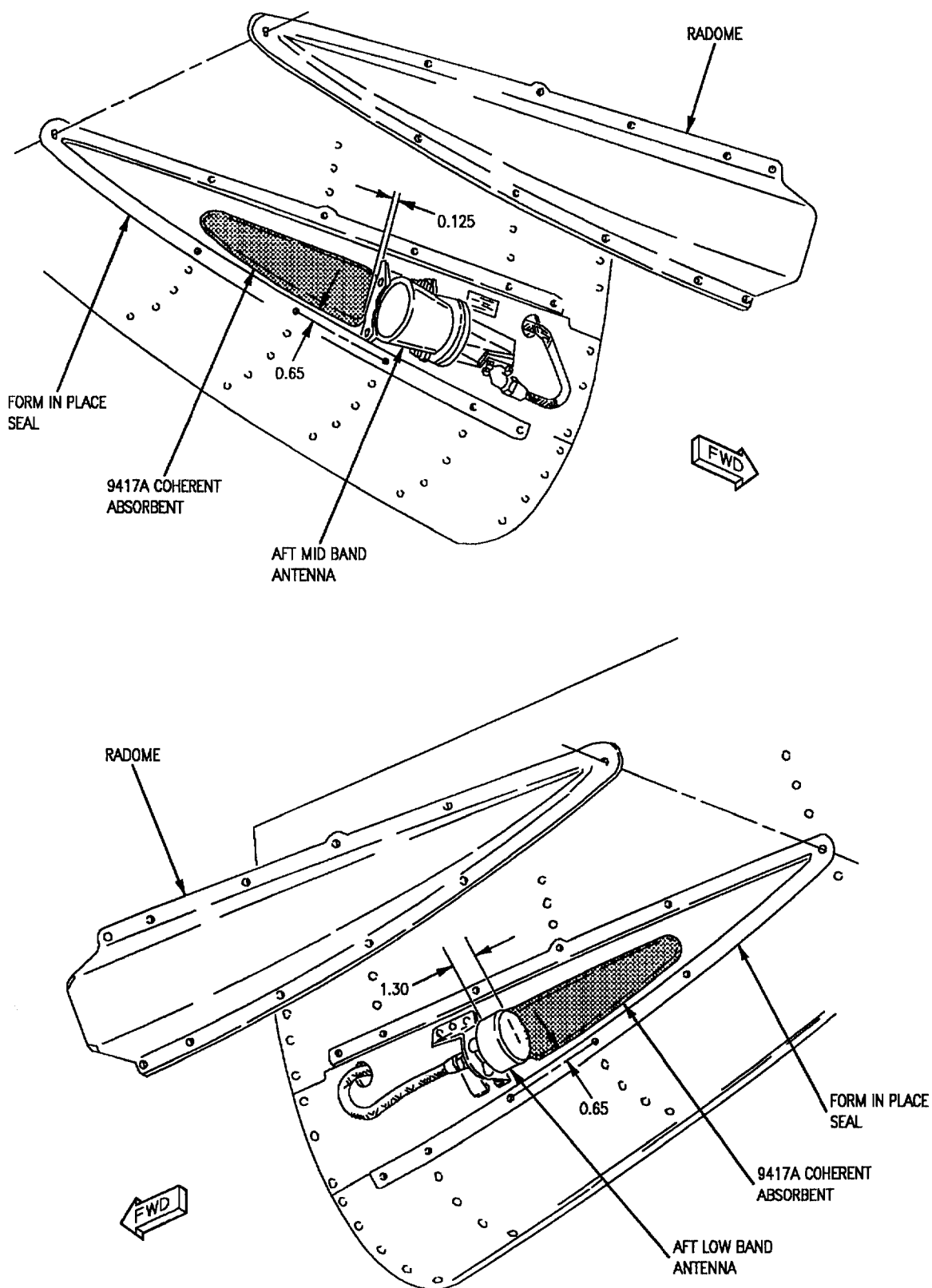
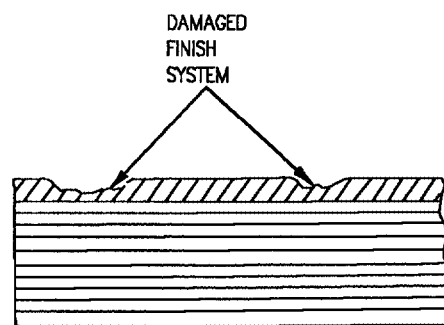
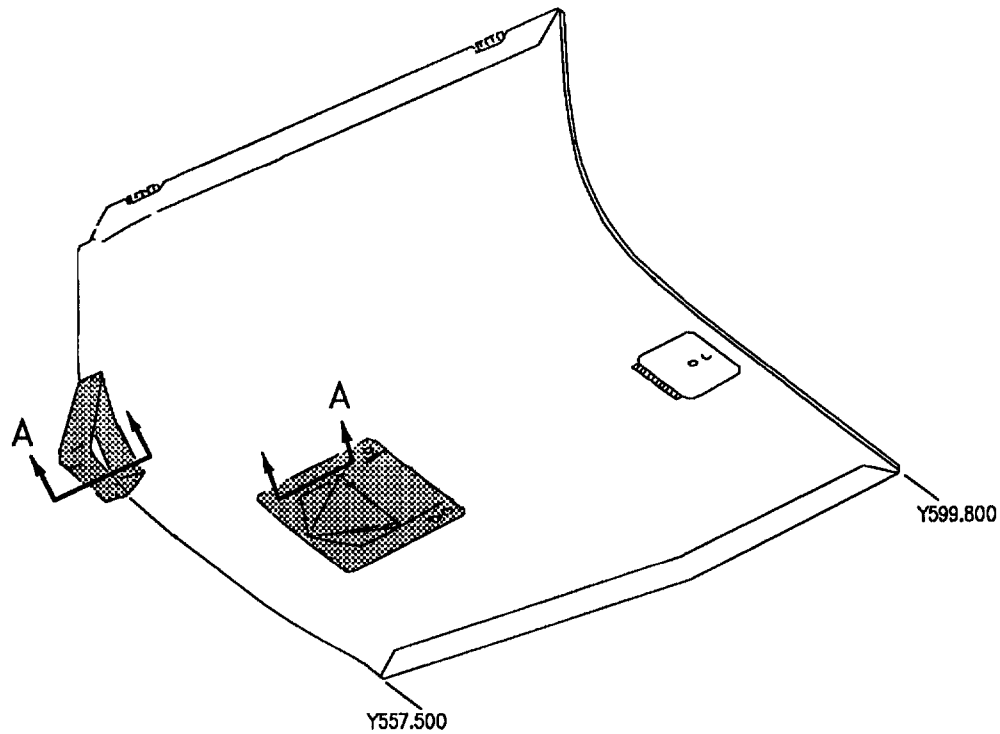


Figure 8. Coherent Absorbent Replacement (Sheet 1)



A

Figure 9. Negligible Damage-Fiberglass

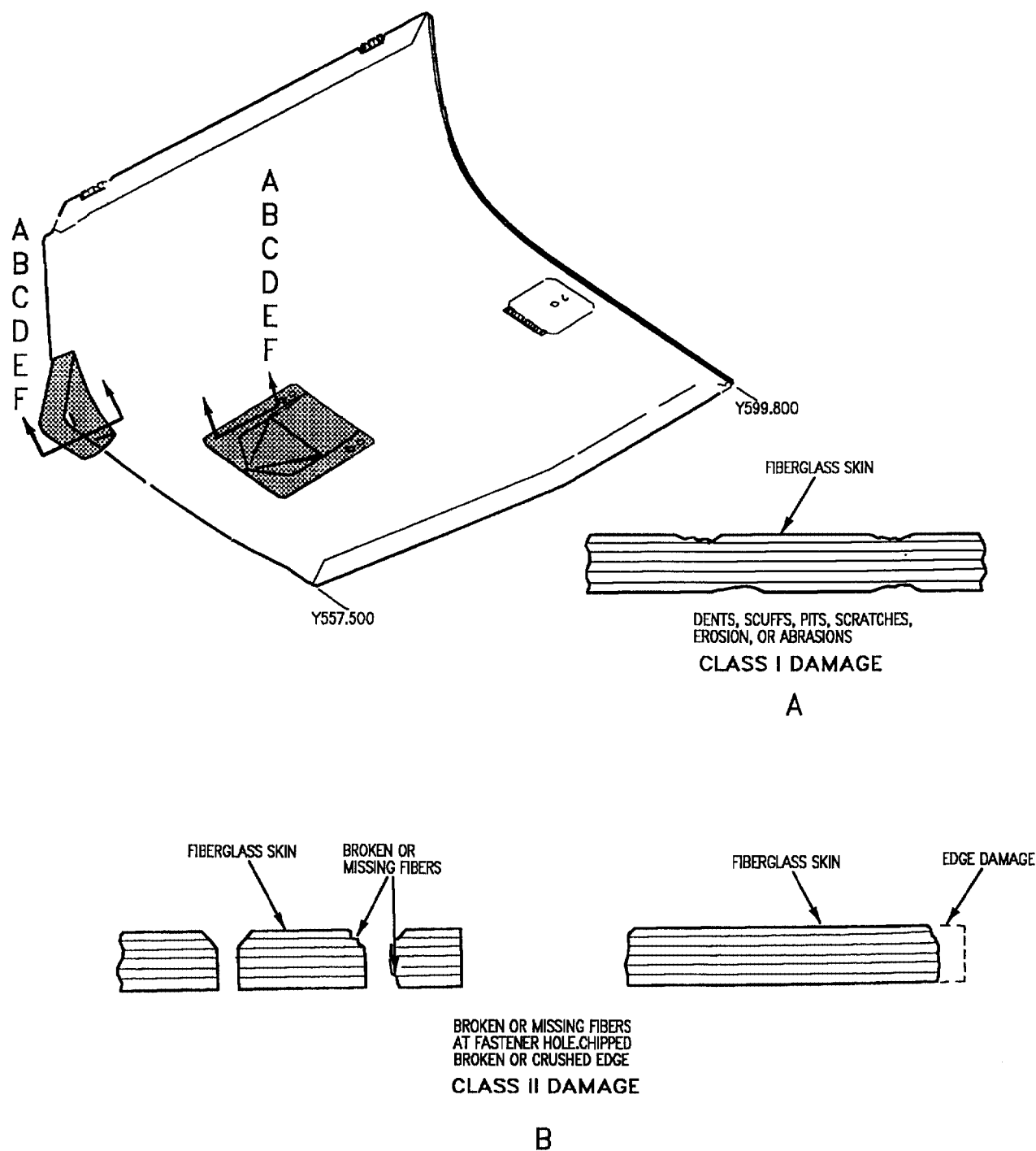
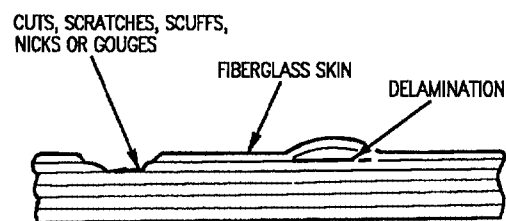
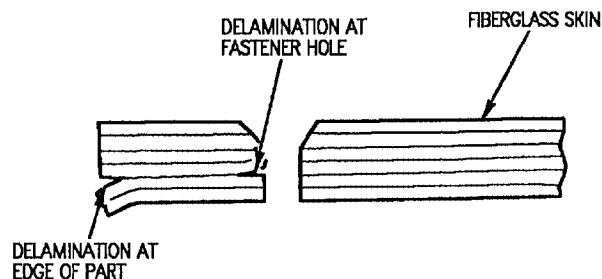


Figure 10. Repairable Damage - Fiberglass (Sheet 1)



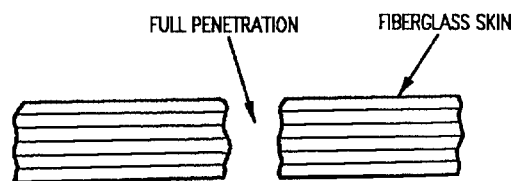
CUTS, SCRATCHES, SCUFFS
NICKS, GOUGES OR DELAMINATIONS
CLASS III DAMAGE

C



DELAMINATION AT FASTENER HOLE
DELAMINATION AT EDGE OF
PART AND AT FASTENER HOLE
CLASS IV DAMAGE

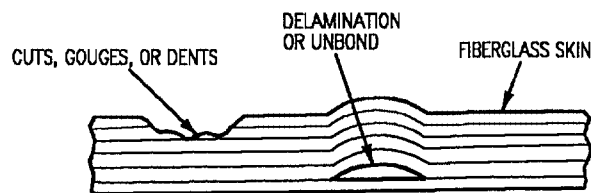
D



SKIN DAMAGE, FULL PENETRATION

CLASS VII DAMAGE

F



DELAMINATIONS OR UNBONDS,
CUTS, GOUGES OR DENTS
CLASS VI DAMAGE

E

Figure 10. Repairable Damage - Fiberglass (Sheet 2)

DEPOT MAINTENANCE**STRUCTURE REPAIR****FORWARD ENGINE ACCESS DOOR (DOOR 64) RADOME****DRILL JIG RE274330601-1, -2**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Forward Engine Access Door (Door 64)	WP017 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Aft Fuselage Finish System and Markings	WP036 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Structure Repair, General Information	A1-F18AC-SRM-200
Gang Channel and Plate nut Identification and Repair	WP004 05
Fasteners	WP004 06
Drilling Machines	WP004 17
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00

Alphabetical Index

Subject	Page No.
Installation of RE274330601-1, -2 Drill Jig and Drilling Holes for Component Installation	2
Aircraft Preparation Down for Repair	2
Drilling Holes in Door	2
Install RE274330601-1, -2 Drill Jig on Aircraft	2
Install 74A885638-2005 Bracket	3
Install 74A885638-2007 Bracket	3

Record of Applicable Technical Directives

None

1. **INSTALLATION OF RE274330601-1, -2 DRILL JIG AND DRILLING HOLES FOR COMPONENT INSTALLATION.** See figure 1.

2. Drill jig will locate eleven holes in new door to mate radome, and install ALQ-126 and AIM-7 antenna brackets.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Drill Jig, Forward Engine Bay Door Radome	RE274330601-1, -2

Materials Required

Specification or Part Number	Nomenclature
Cheesecloth	CCC-C-440 Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Sealing Compound	MIL-S-83430 Class B-1/4

3. **AIRCRAFT PREPARATION DOWN FOR REPAIR.**

a. Remove electrical and hydraulic power from aircraft (A1-F18AC-LMM-000).

b. Close doors 68 and 64 (A1-F18AC-LMM-010). For door 64 replacement go to (WP017 00).

4. **INSTALL RE274330601-1, -2 DRILL JIG ON AIRCRAFT.**

a. Fit weld assembly (detail 11) to door 64 mold-line surface and index bar (detail 102) to missile fairing, sheet 1.

b. Remove fasteners from door as required that mate weld assembly (detail 11).

c. Align and secure weld assembly (detail 11) with three threaded pins (details 12 and 13), sheet 1.

d. Tighten threaded pins (details 12 and 13) hand tight.

5. **DRILLING HOLES IN DOOR.**

a. Drill 0.257 +0.006 -0.000 inch diameter holes using bushings (detail 111), through skin and door sub-structure, 11 places. For drilling machines (A1-F18AC-SRM-200, WP004 17).

b. Drill 0.391 +0.007 -0.000 inch diameter holes using bushing (detail 114) through skin, four places.

c. Remove three threaded pins (details 12 and 13) from milson receptacles.

d. Remove weld assembly (detail 11) from door.

e. Open door 64 (A1-F18AC-LMM-010).

f. Deburr all holes.

g. Touch up holes (A1-F18AC-SRM-500, WP036 00).



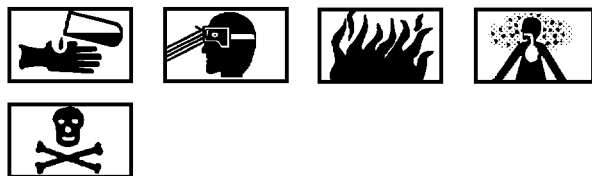
Sealing Compound



2

h. Fay surface seal platenuts and wet set rivets with MIL-S-83430 sealing compound. Install platenuts (A1-F18AC-SRM-200, WP004 05) 11 places. For plate nut replacement see (WP017 00). Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

i. Fay surface seal quick release receptacles and wet set rivets with MIL-S-83430 sealing compound. Install quick release receptacles (A1-F18AC-SRM-200, WP004 06). Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).



Isopropyl Alcohol

1

j. Clean excess sealing compound from platenuts and quick release receptacles using cheesecloth saturated with isopropyl alcohol.

k. Refinish as required (A1-F18AC-SRM-500, WP036 00).

6. INSTALL 74A885638-2005 BRACKET. See detail B.

a. Install bracket to angle (detail 104) with pin (detail 106) and align with door moldline.

b. Locate and mark fasteners on door that will mate with bracket, six places.

c. Remove pin (detail 106) and remove bracket.



Be careful not to enlarge holes when drilling out fasteners. May cause structural failure.

d. Remove fasteners indicated in step b.

e. Install bracket to angle (detail 104) with pin (detail 106), align bracket with holes in door and temporarily secure to angle (detail 104).

f. Back drill six holes from door into bracket.

g. Remove pin (detail 106) and remove bracket.

h. Remove threaded pins (details 12 and 13) and remove weld assembly (detail 11) from aircraft.

i. Deburr holes in door and bracket.

j. Touch up holes in door and bracket (A1-F18AC-SRM-500, WP036 00).

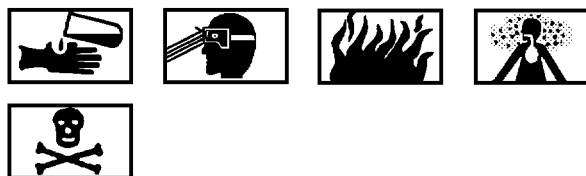


Sealing Compound

2

k. Lay surface seal bracket to door with MIL-S-83430 sealing compound. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

l. Install MS20470DD6 rivets, length determined on installation, set wet with MIL-S-83430 sealing compound.



Isopropyl Alcohol

1

m. Remove excess sealing compound using cheesecloth moistened with isopropyl alcohol.

n. Refinish as required (A1-F18AC-SRM-500, WP036 00).

7. INSTALL 74A885638-2007 BRACKET. See detail C.

a. Install bracket to angle (detail 108) with L-pin (detail 109) and align with door moldline.

b. Locate and mark fasteners on door that will mate with bracket, six places.

c. Remove L-pin (detail 109) and remove bracket.



Be careful not to enlarge holes when drilling out fasteners. May cause structural failure.

d. Remove fasteners indicated in step b.

e. Install bracket to bar (detail 108) with L-pin (detail 109), align bracket with holes in door and temporarily secure to bar (detail 108).

f. Back drill six holes from door into bracket.

g. Remove L-pin (detail 109) and remove bracket.

h. Remove threaded pins (details 12 and 13) and remove weld assembly (detail 11) from aircraft.

i. Touch up holes in door and bracket (A1-F18AC-SRM-500, WP036 00).



Sealing Compound

2

j. Fasten surface seal bracket to door with MIL-S-83430 sealing compound. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

k. Install MS20470DD6 rivets, length determined on installation, set wet with MIL-S-83430 sealing compound.



Isopropyl Alcohol

1

l. Remove excess sealing compound using cheesecloth moistened with isopropyl alcohol.

m. Refinish as required (A1-F18AC-SRM-500, WP036 00).

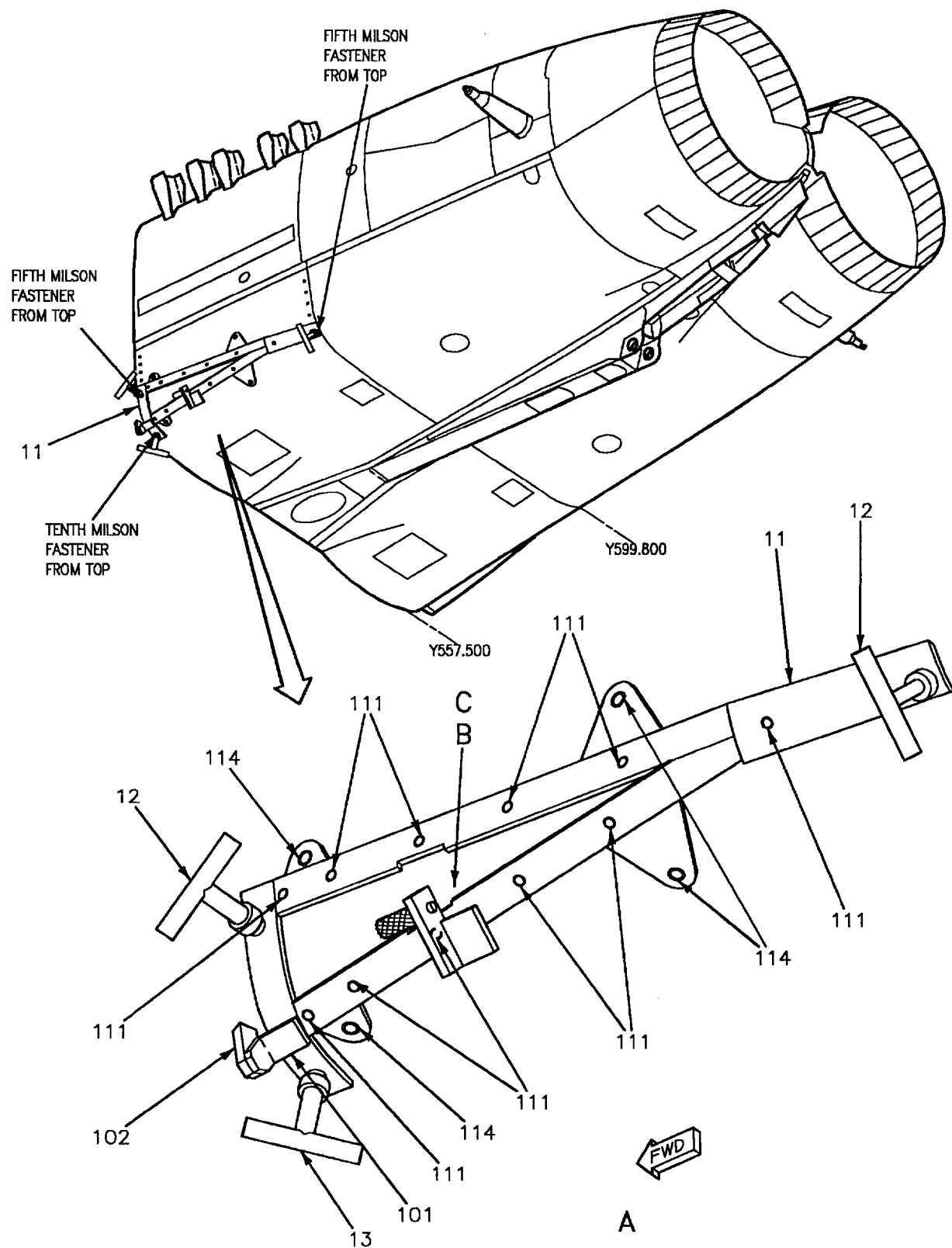


Figure 1. Locating and Drilling Radome Attach Holes and ALQ-126/AIM-7 Antenna Brackets (Sheet 1)

01701101

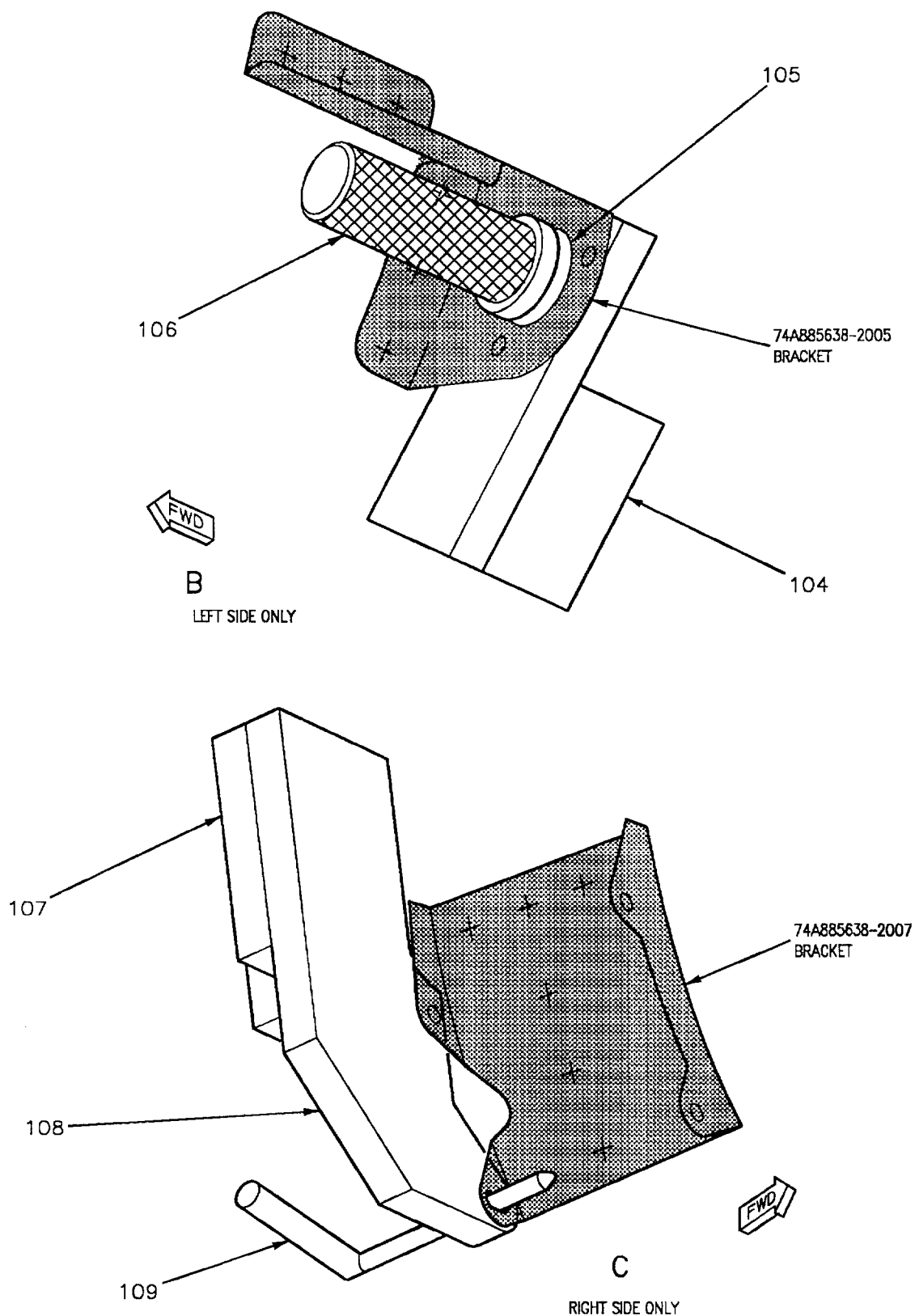


Figure 1. Locating and Drilling Radome Attach Holes and ALQ-126/AIM-7 Antenna Brackets (Sheet 2)

01701102

Detail No.	Name	Function
11	Weld assembly	Locates 11 radome, six ECM bracket, and four quick release receptacle holes.
12, 13	Threaded pin	Secures detail 11 to aircraft.
101	Angle	Used to support detail 102.
102	Bar	Used to index detail 11 to missile fairing.
104	Angle	Used to align 74A885638-2005 bracket.
106	Pin	Secures 74A885638 bracket to detail 104.
107	Angle	Used to support detail 108.
108	Bar	Used to align 74A885638-2007 bracket.
109	L-pin	Secures 74A885638 bracket to detail 108.
111	Bushing	Used to drill 0.257 inch diameter holes.
114	Bushing	Used to drill 0.391 inch diameter holes.

Figure 1. Locating and Drilling Radome Attach Holes and ALQ-126/AIM-7 Antenna Brackets (Sheet 3)

DEPOT MAINTENANCE
STRUCTURE REPAIR
FORWARD ENGINE ACCESS DOOR (DOOR 64)
MAINTENANCE FIXTURE, RE174330601-1, -2

Reference Material

None

Alphabetical Index

Subject	Page No.
Installation of Door Into Maintenance Fixture	2
Fixture Preparation Before Loading Door Assembly	6
Loading Door Into Maintenance Fixture	6
Prepare Door Assembly Before Loading	6
Verify Dimensions	6
Installation of Maintenance Fixture Into Maintenance Stands	2
Installation of Maintenance Stands For Use With Forward Engine Access Door Maintenance Fixture	1

Record of Applicable Technical Directives

None

1. INSTALLATION OF MAINTENANCE STANDS FOR USE WITH FORWARD ENGINE ACCESS DOOR MAINTENANCE FIXTURE. See figure 1.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Hoist, Overhead	-

Materials Required

Nomenclature	Specification or Part Number
Bolts (12)	3/8-inch

a. Hoist maintenance stands (stands) with an overhead hoist attached to hoist fitting (detail 128).

b. Position stand as indicated:

(1) Center stud bolts (detail 121) in slot in plate (detail 13C), view B.

(2) Distance between indentations in heads of stud bolts (detail 121) is 68.1 inches plus or minus 1.0 inch.

(3) Align centerline of spindles (detail 13) in line within 1.5 degrees of each other.

c. Anchor each stand to floor with six 3/8-inch bolts.

d. Disengage L-pin (detail 14) from spindles (detail 13), rotate until plate (detail 13C) is parallel to floor with head of stud bolt (detail 121) up.

e. Reengage L-pin (detail 14) with spindles (detail 13).

f. Support the adjustable support (detail 12) with an overhead hoist attached to hoist fitting ring (detail 128), remove cotter pin (detail 110), two nuts (detail 111), washer (detail 112) from T-pin (detail 108), view C.

g. Remove T-pin (detail 108) from adjustable support (detail 12) and lower support (detail 11), view C.

h. Raise adjustable support (detail 12) until the upper surface of the plate (detail 13C) is 36.0 inches

above floor. Reinstall T-pin (detail 108) into lower support (detail 11) and adjustable support (detail 12), view C.

i. Install washer (detail 112), two nuts (detail 111), and cotter pin (detail 110) on T-pin (detail 108) and tighten nut (detail 111), view C.

j. Loosen jamnut (detail 115) and nut (detail 116) on eyebolt (detail 119), rotate eyebolt (detail 119) clear of plate (detail 13C), view A.

k. Swing upper plate (detail 101) clear of plate (detail 13C), view D.

l. Loosen jamnut (detail 115) and adjust nut (detail 114) to obtain a 0.40 inch preload dimension on disc springs (detail 117) two places each stand, view D.

m. Tighten jamnut (detail 115) after preload dimension is reached, two places each stand, view D.

2. INSTALLATION OF MAINTENANCE FIXTURE INTO MAINTENANCE STANDS. See figure 2.

Support Equipment Required

Part Number or Type Designation	Nomenclature
Hoist, Overhead	-

Materials Required

None



Care shall be taken not to abraid maintenance fixture surfaces with hoist chains.

a. Hoist maintenance fixture (fixture) in the horizontal position with an overhead hoist attached to four hoist fittings (detail 119).

WARNING

Inspect L-pins (detail 14) on maintenance stands (stands) to make sure they are fully engaged with spindle (detail 13). A disengaged spindle (detail 13) may rotate and could cause injury or damage to fixture.

b. Lower fixture aligning counter bores in end plates (detail 12) on fixture with stud bolt (detail 121) on stands, view A.

c. Swing upper plate (detail 101) on stand over end plate (detail 12) on fixture, view A.

d. Swing eyebolt (detail 119) on stand, down into slot in plate (detail 13C), tighten nut (detail 116) clamping fixture to stand and tighten jamnut (detail 115) to nut (detail 116) in place, view A.

e. Disconnect overhead hoist from four hoist fittings (detail 119) on fixture.

f. Rotate fixture, check to make sure it clears floor and stands.

3. INSTALLATION OF DOOR INTO MAINTENANCE FIXTURE. See figures 2 and 3.

Support Equipment Required

None

Materials Required

None

a. Rotate maintenance fixture (fixture) to horizontal position (parallel to floor) with tooling plates (figure 3 details 111, 112, 113 or 114, 115, 154, 157 and 158) up.

b. Install L-pin (figure 2, detail 14) into spindle (detail 13) on maintenance stands (stands).

WARNING

Inspect L-pins (detail 14) on stands to make sure they are fully engaged with spindle (figure 2, detail 13). A disengaged spindle (detail 13) may rotate and could cause personnel injury or damage to door fixture.

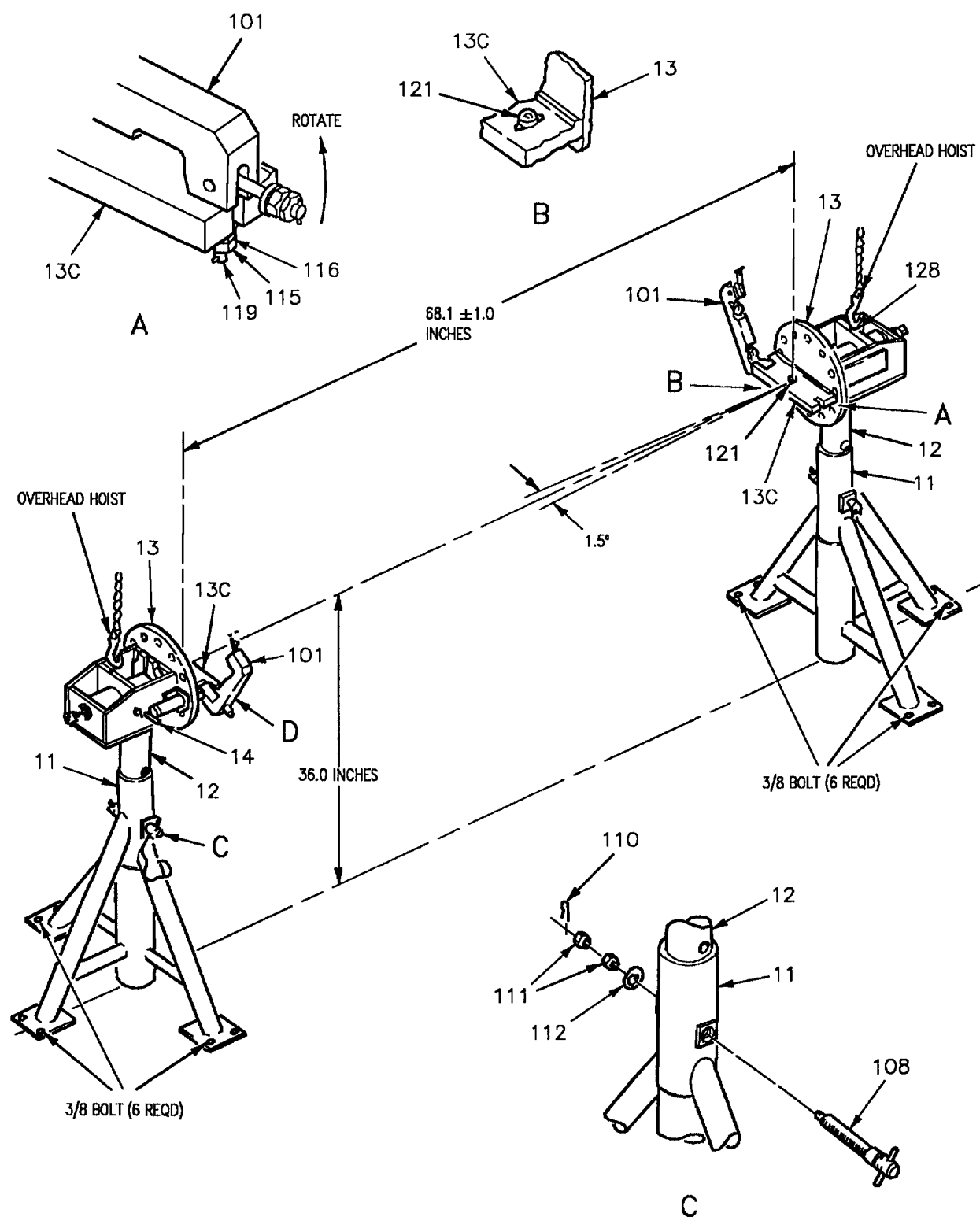
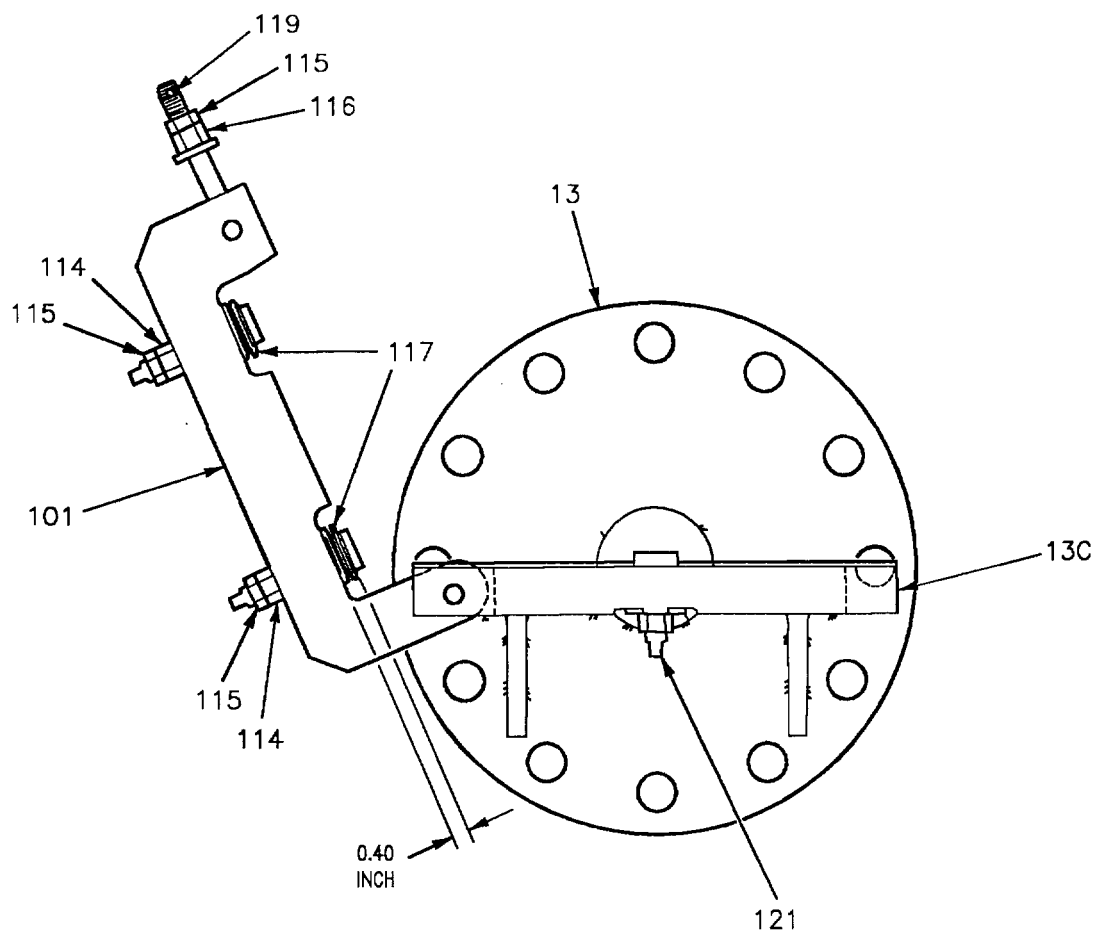


Figure 1. Installation of Maintenance Stands (Sheet 1)



D

Figure 1. Installation of Maintenance Stands (Sheet 2)

Detail No.	Name	Function
11	Lower support	Supports maintenance fixture.
12	Adjustable support	Supports maintenance fixture.
13	Spindle	Supports and rotates maintenance fixture.
13C	Plate	Supports and positions maintenance fixture.
14	L-Pin	Locates detail 13.
101	Upper plate	Secures maintenance fixture in place.
108	T-Pin	Locates details 11 and 12.
110	Cotter pin	Secures detail 108 in place.
111	Nut	Secures detail 108 in place.
112	Washer	Secures detail 108 in place.
114	Nut	Adjusts preload dimension for detail 117.
115	Jam nut	Secures details 114 and 116 in place.
116	Nut	Secures detail 119 in place.
117	Disc spring	Used for preload dimension.
119	Eye bolt	Secures detail 101.
121	Stud bolt	Aligns maintenance fixture.
128	Hoist fitting	Support maintenance stands while hoisting.

Figure 1. Installation of Maintenance Stands (Sheet 3)

4. FIXTURE PREPARATION BEFORE LOADING DOOR ASSEMBLY. See figure 3.

a. Remove angles (details 101, 102, and 103) and plates (details 108 and 110) from tooling plate (detail 112), sheet 2.

b. Remove angle (detail 104) from tooling plate (detail 115), sheet 2.

c. Remove angles (details 105 and 106) and plates (details 107 and 109) from tooling plate (detail 111), sheet 2.

NOTE

Position details in steps d thru f to receive door assembly.

d. Tooling plates (details 111, 112, 113 or 114, 115, 154, 157, and 158), sheet 2.

e. Weld assemblies (details 27, 28, 29, 30, and 31).

f. Weld assemblies (details 32, 33, and 34).

5. PREPARE DOOR ASSEMBLY BEFORE LOADING. Remove A2624-1 holder, see figure 3, sheet 1.**6. LOADING DOOR INTO MAINTENANCE FIXTURE.** See figure 3 and steps listed:

a. Load door onto fixture, resting door on tooling plates (details 157 and 158), sheet 2.

b. Position outboard forward edge of door against plate (detail 160) and outboard aft edge of door against plate (detail 116), view A.

WARNING

To prevent injury to personnel and/or damage to equipment, the door assembly must be safely secured to the fixture during performance of all maintenance procedures.

NOTE

Door may be safely secured to the fixture by several methods. The use of fabric strap clamps is allowable. If possible, drill rods inserted through the four milson fastener holes numbers 3, 9, 35, and 41 preferred. See sheet 2 and detail D.

c. Secure door to fixture.

d. Rotate fixture to inverted position, sheet 3.

e. Set tooling plates (details 111, 112, 113 or 114, 115, 154, 157, and 158) to nominal position.

f. Set weld assemblies (details 27, 28, 29, 30, and 31) to nominal position.

g. Set weld assemblies (details 32, 33, and 34) to nominal position.

h. Install angles (details 101, 102, and 103) and plates (details 108, and 110) on tooling plate (detail 112), sheet 2.

i. Install angle (detail 104) on tooling plate (detail 115), sheet 2.

j. Install angles (details 105, and 106) and plates (details 107, and 109) on tooling plate (detail 111), sheet 2.

7. VERIFY DIMENSIONS. Verify dimensions for gap and rebuild points, as listed and in figure 3.

a. Gap between forward edge of 74A330602 skin and plates (detail 159), two places is 0.020, view B.

b. Gap between 74A330619 former and plates (details 116, and 160) is net condition, view A.

c. Gap between 74330618 former and bar (detail 129), two places, is 0.060, view C.

d. Gap between 74A330625 formers, two places, and bars (detail 132 and 133) is net condition, view E.

e. Gap between 74A330626 formers, two places, and bars (detail 134) is net condition, view E.

f. Gap between aft end of 74A330624, 74A330628 and 74A330630 stringers and bar (detail 130) is net condition, view F.

g. Gap between aft end of 74A330629 stringer and bar (detail 135) is net condition, view F.

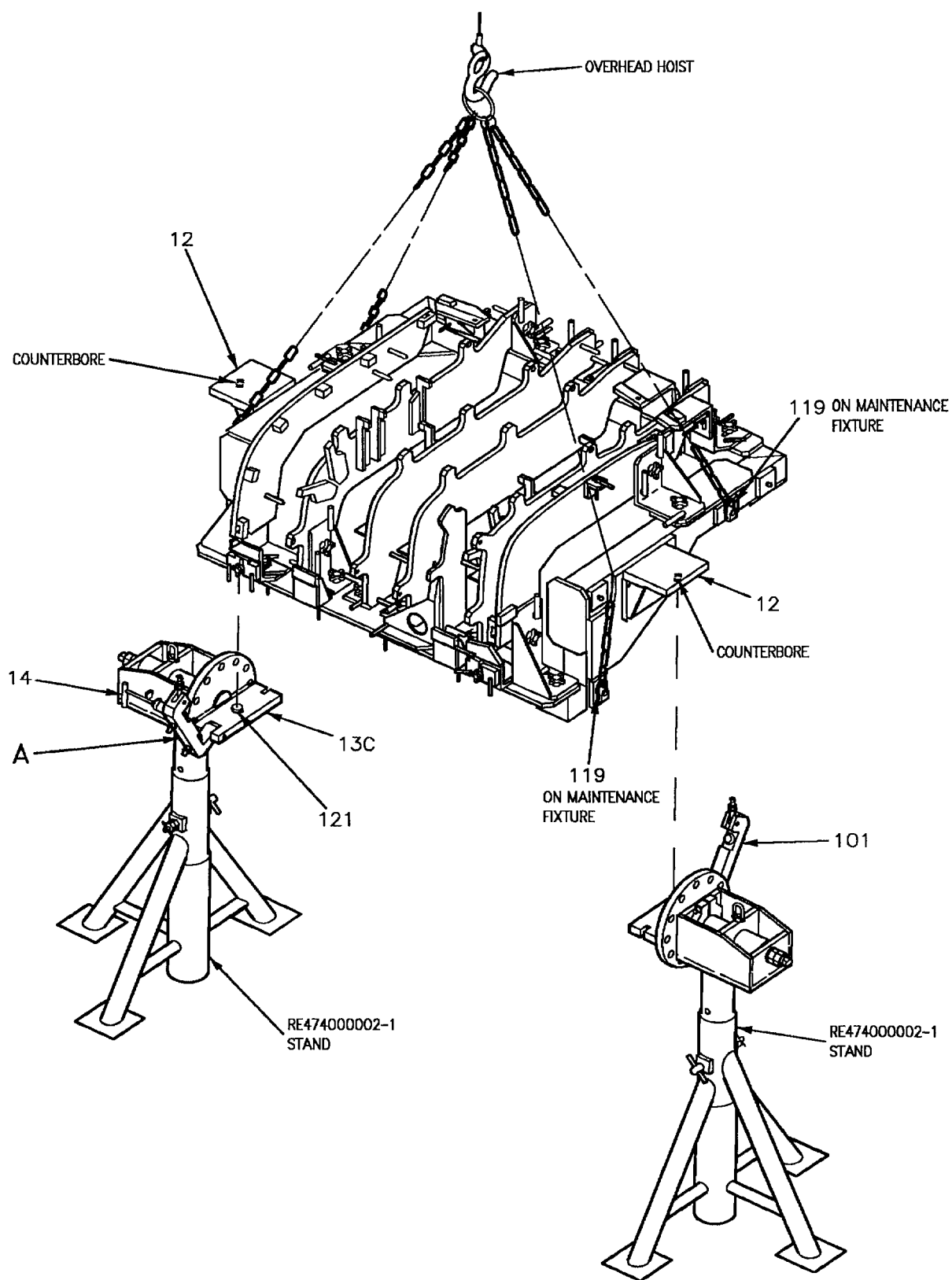
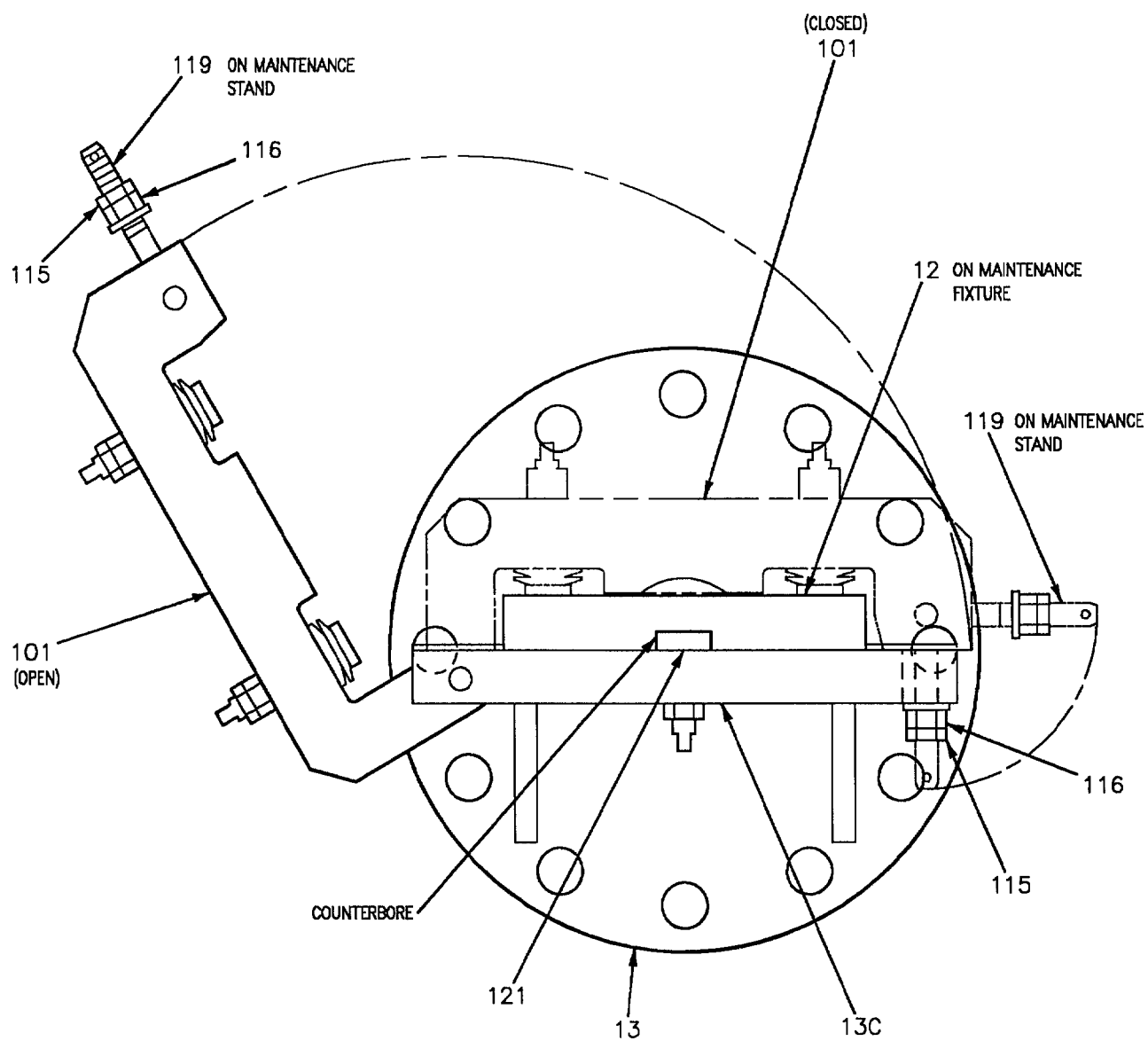


Figure 2. Installation of Maintenance Fixture (Sheet 1)



A

Figure 2. Installation of Maintenance Fixture (Sheet 2)

Detail No.	Name	Function
12	End plate	Aligns and supports maintenance fixture.
13	Spindle	Supports and rotates maintenance fixture.
13C	Plate	Supports and positions maintenance fixture.
14	L-Pin	Locates detail 13.
101	Upper plate	Secures maintenance fixture in place.
115	Jam nut	Secures detail 116 in place.
116	Nut	Secures detail 119 in place.
119	Eye bolt	Secures detail 101, on maintenance stand.
119	Hoist ring	Used to hoist maintenance fixture.
121	Stud bolt	Aligns maintenance fixture.

Figure 2. Installation of Maintenance Fixture (Sheet 3)

h. Gap between 74A331625 former and tooling plate (detail 112) is net condition, view G.

i. Gap between 74A331623 former and tooling plate (detail 115) is net condition, view G.

j. Gap between 74A330604 former and tooling plate (detail 113 or 114) as required, is net condition, view G.

k. Gap between 74A330603 support and tooling plate (detail 111) is net condition, view G.

l. Gap between forward end of 74A330623 stringer and bar (detail 131) is net condition, view F.

m. Setback between 74A330624 stringer and angles (details 102, and 105) is 0.125 ± 0.030 , view H.

n. Setback between 74A330628 stringer and angles (details 101, and 104) is 0.125 ± 0.030 , view H.

o. Setback between 74A330623 stringer and angles (details 103, and 106) is 0.125 ± 0.030 , view H.

p. Setback between 74A330629 stringer and plates (details 109, and 110) is 0.125 ± 0.030 , view H.

q. Setback between 74A330630 stringer and plates (details 107, and 108) is 0.125 ± 0.030 , view H.

r. Gap between 74A330627 former and tooling plate (detail 154) is net condition, view G.

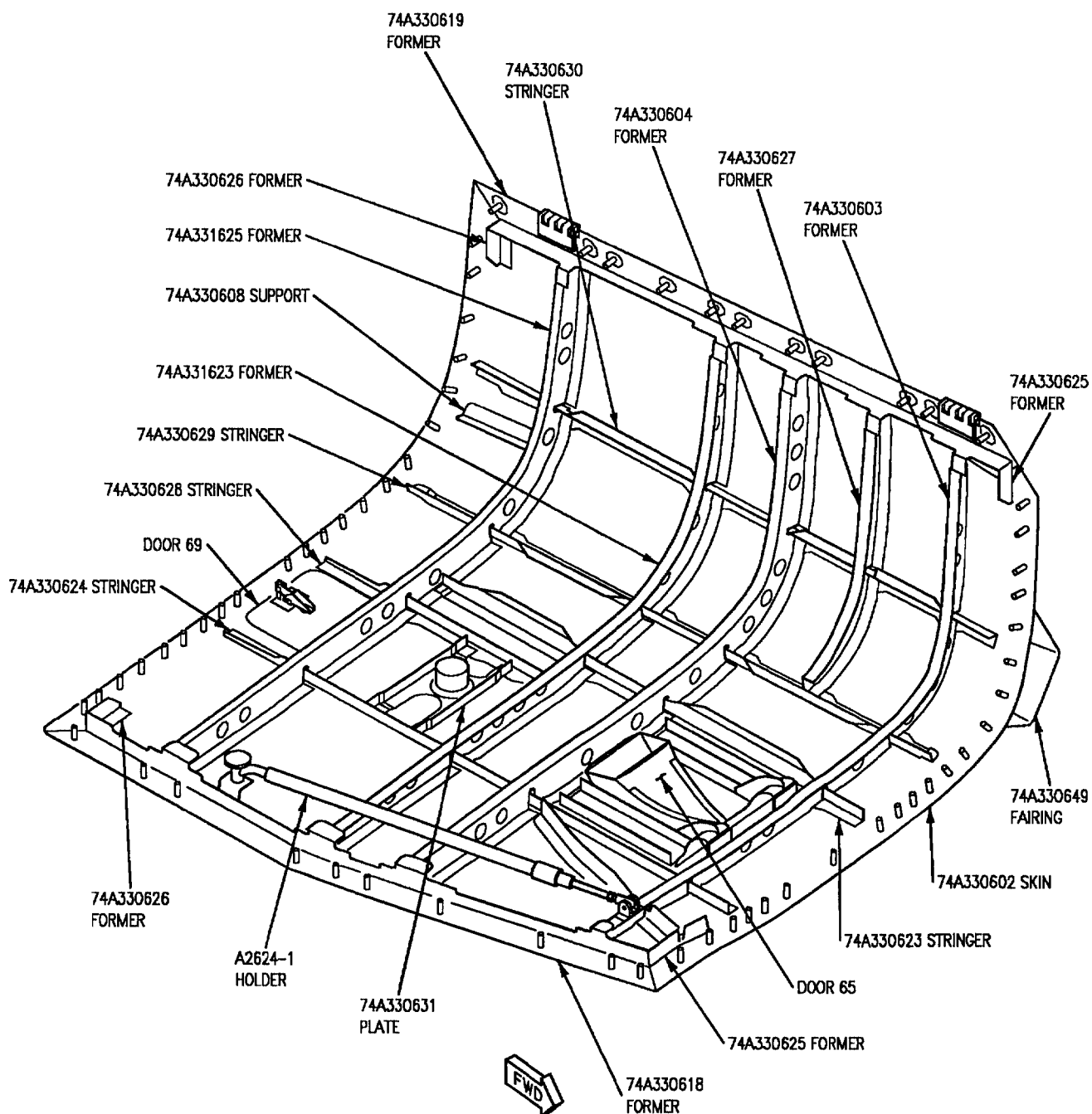


Figure 3. Installation of Door into Maintenance Fixture (Sheet 1)

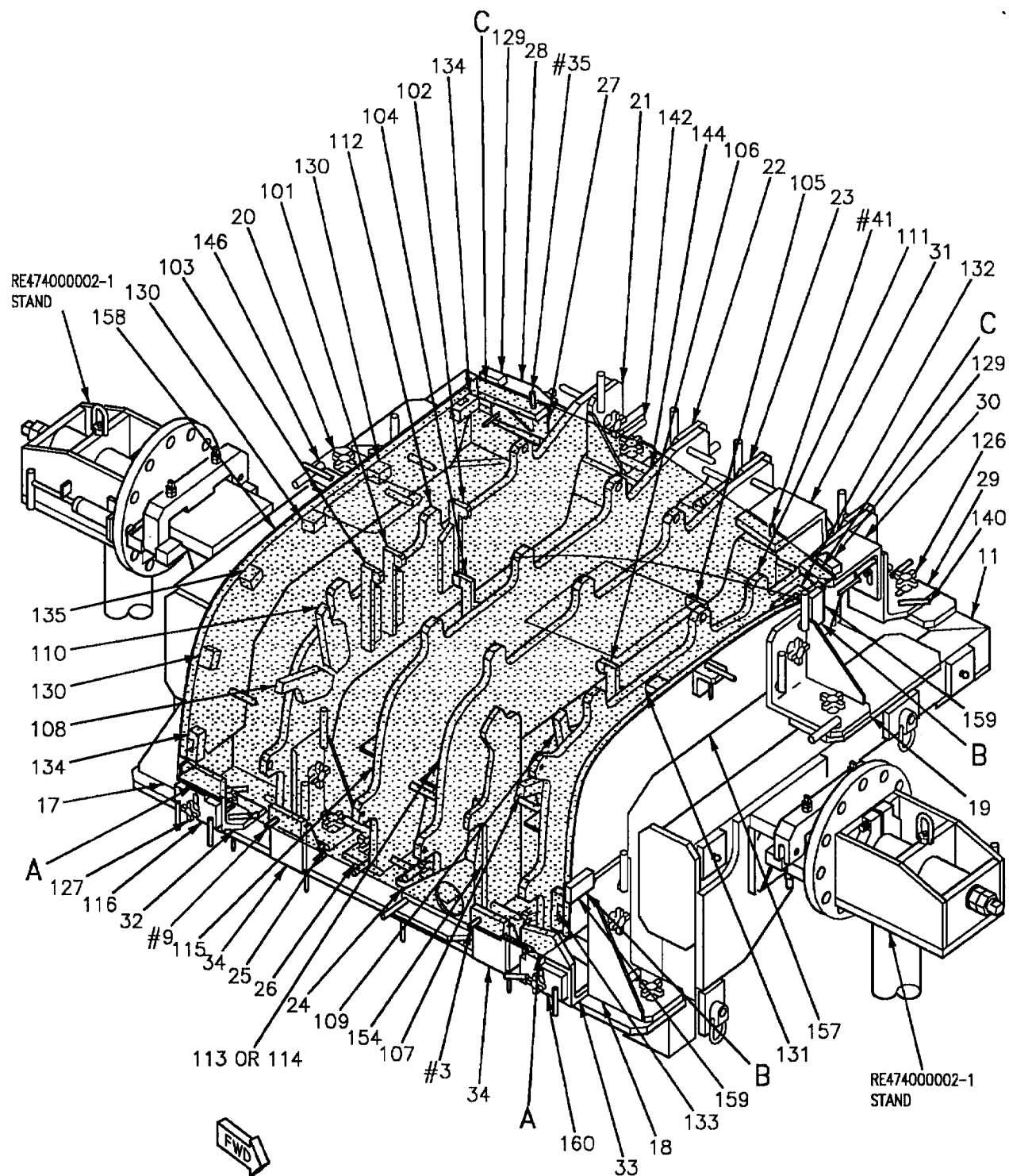


Figure 3. Installation of Door into Maintenance Fixture (Sheet 2)

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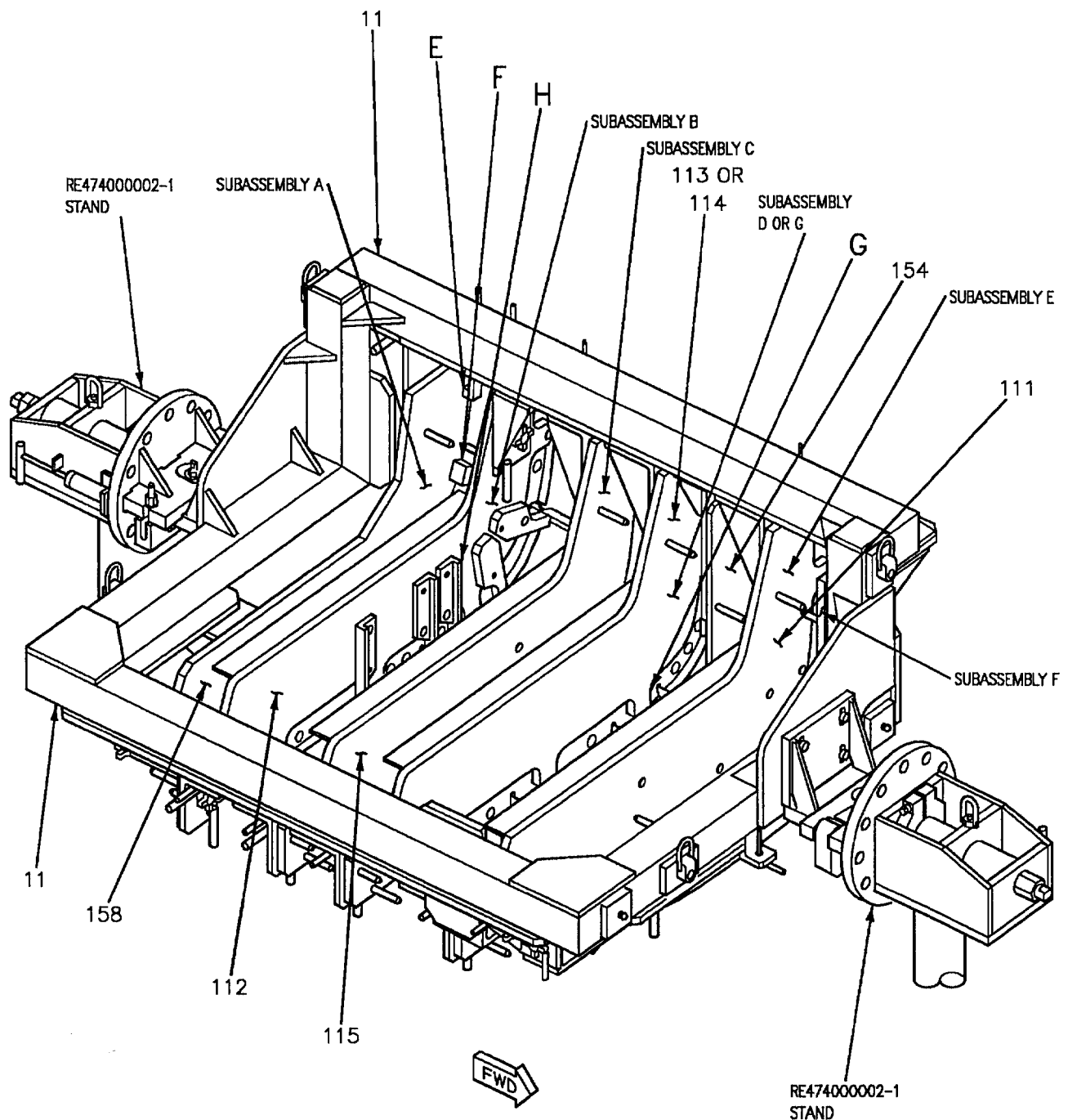


Figure 3. Installation of Door into Maintenance Fixture (Sheet 3)

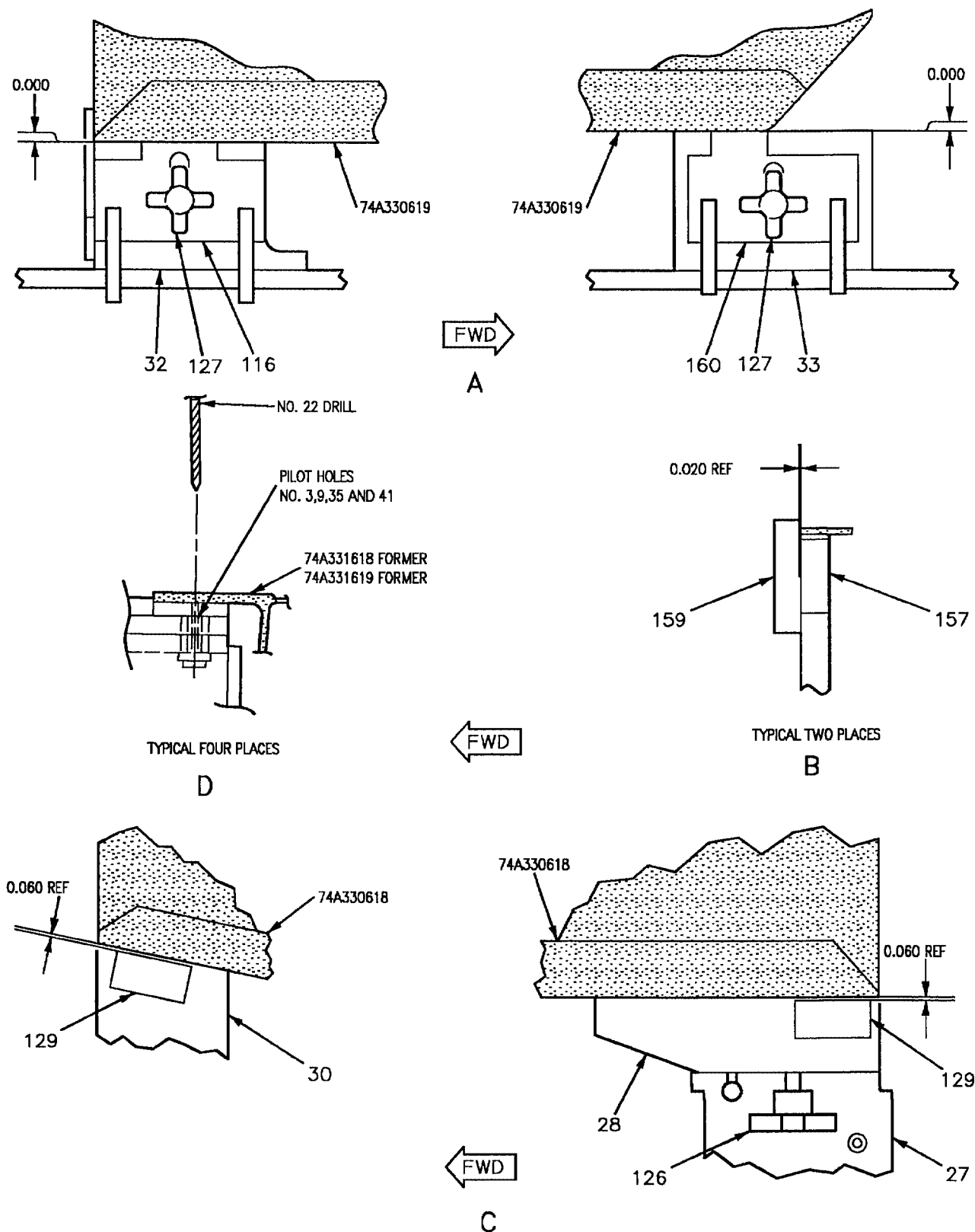


Figure 3. Installation of Door into Maintenance Fixture (Sheet 4)

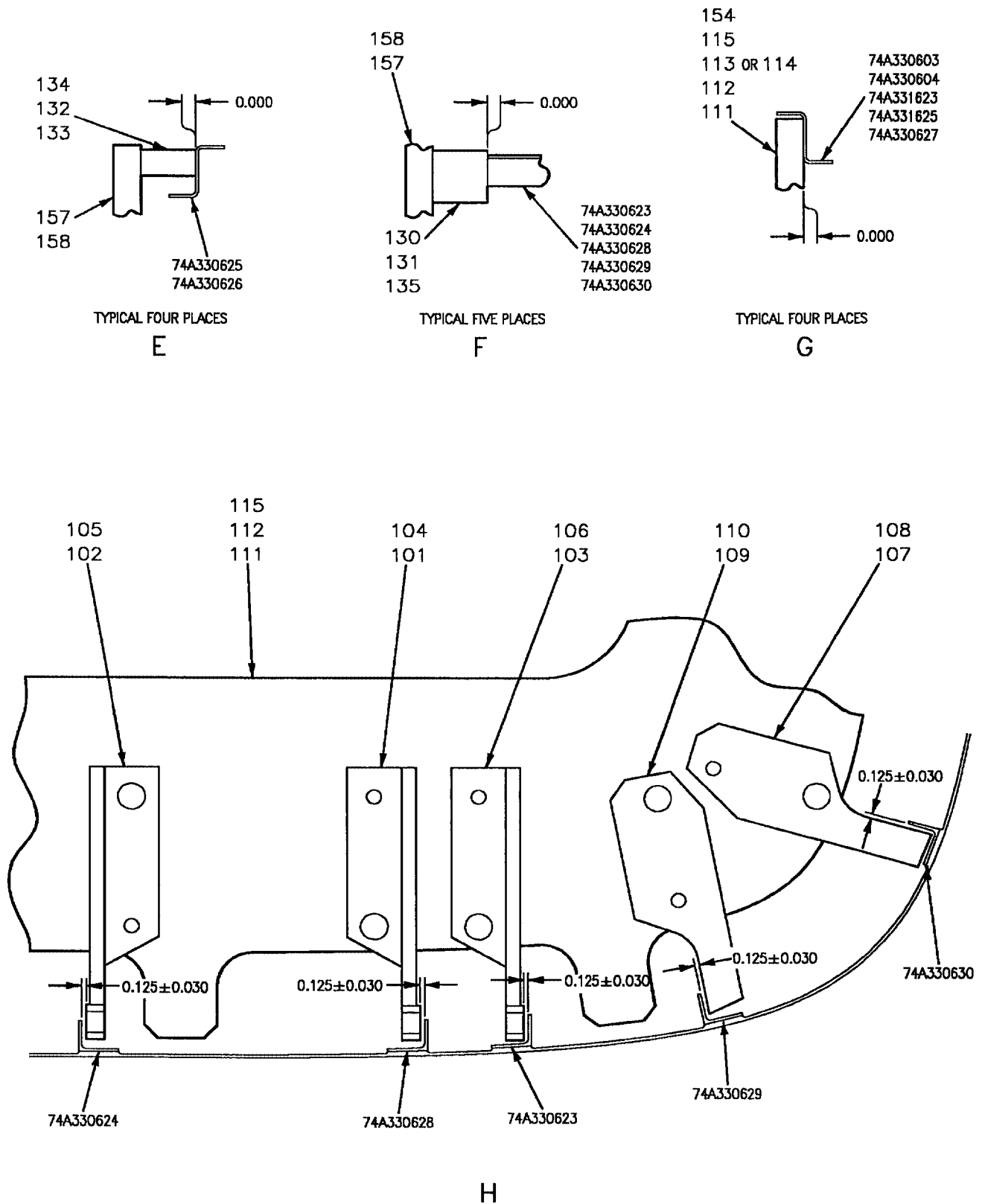


Figure 3. Installation of Door into Maintenance Fixture (Sheet 5)

Detail No.	Name	Function
Subassembly A	Locator	Used to set aft edge of 74A330602 skin.
Subassembly B	Locator	Used to set 74A331625 former.
Subassembly C	Locator	Used to set 74A331623 former.
Subassembly D	Locator	Used to set 74A330604 former. Light weight.
Subassembly E	Locator	Used to set 74A330603 former.
Subassembly F	Locator	Used to set forward edge of 74A330602 skin.
Subassembly G	Locator	Used to set 74A330604 former. Heavy weight.
11	Frame assembly	Provides structural support for details.
17	Weld assembly	Supports subassembly A.
18	Weld assembly	Supports subassembly F.
19	Weld assembly	Supports subassembly F.
20	Weld assembly	Supports subassembly A.
21	Weld assembly	Supports subassembly C.
22	Weld assembly	Supports subassembly B.
23	Weld assembly	Supports subassembly D or G.
24	Weld assembly	Supports subassembly D or G.
25	Weld assembly	Supports subassembly B.
26	Weld assembly	Supports subassembly C.
27	Weld assembly	Supports detail 28.
28	Weld assembly	Supports detail 129 and sets 74A330602 skin.
29	Weld assembly	Supports detail 30.
30	Weld assembly	Supports detail 129 and sets 74A330602 skin.
31	Weld assembly	Used to set 74A330602 skin.
32	Weld assembly	Supports detail 116.
33	Weld assembly	Supports detail 160.
34	Weld assembly	Locates outboard edge of door.
101	Angle	Used to set 74A330628 stringer.
102	Angle	Used to set 74A330624 stringer.
103	Angle	Used to set 74A330623 stringer.
104	Angle	Used to set 74A330628 stringer.
105	Angle	Used to set 74A330624 stringer.

Figure 3. Installation of Door into Maintenance Fixture (Sheet 6)

106	Angle	Used to set 74A330623 stringer.
107	Plate	Used to set 74A330630 stringer.
108	Plate	Used to set 74A330630 stringer.
109	Plate	Used to set 74A330629 stringer.
110	Plate	Used to set 74A330629 stringer.
111	Tooling plate	Used to set 74A330603 former.
112	Tooling plate	Used to set 74A331625 former.
113	Tooling plate	Used to set 74A330604 former, ON 161353 THRU 161761.
114	Tooling plate	Used to set 74A330604 former, ON 161924 AND UP.
115	Tooling plate	Used to set 74A331623 former.
116	Plate	Used to verify gap of outboard aft door.
126	Hand knob	Secures various details in position.
127	Hand knob	Secures various details in position.
129	Bar	Used to set inboard edge of door.
130	Bar	Sets end of 74A330624, 74A330628 and 74A330629 stringers.
131	Bar	Sets end of 74A330623 stringer.
132	Bar	Sets 74A330625 inboard, former.
133	Bar	Sets 74A330625 outboard former.
134	Bar	Sets 74A330626 formers.
135	Bar	Sets end of 74A330629 stringer.
140	L-pin	Sets various details in position.
142	L-pin	Sets various details in position.
144	L-pin	Sets various details in position.
146	L-pin	Sets various details in position.
154	Tooling plate	Used to set 74A330627 former.
157	Tooling plate	Sets forward edge of door.
158	Tooling plate	Sets aft edge of door.
159	Plate	Used to verify forward edge of skin.
160	Plate	Used to verify gap of outboard forward door.

Figure 3. Installation of Door into Maintenance Fixture (Sheet 7)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**STRUCTURE REPAIR****AFT ENGINE ACCESS DOOR (DOOR 74)****EFFECTIVITY: 161353 THRU 161741**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Aft Fuselage Finish System and Markings	WP036 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation	WP003 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Door, Engine Bay - Aft, Installation of	FIG 010 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Working Titanium	WP004 02
Locating Blind Holes and Trim Lines	WP004 03
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Titanium Sheet, Free of Structure and Land Areas	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repairs	WP034 00
Titanium Sheet Edge Repairs	WP035 00
Aluminum Sheet Repairs Across Structure and Lands	WP036 00
Titanium Sheet Repairs Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
Structural Hardware	NAVAIR 01-1A-8

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Record of Applicable Technical Directives

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.

8. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet or titanium sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A1 and A3, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Stop drill ends of crack in repair zone A1 or rout out crack in repair zone A3.

(2) In repair zones A1 and A3, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair cracks to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zones A1 and A3, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3 make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair holes to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zones A1 and A3, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) or in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. Dents.

a. In repair zones A1 and A3, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair dents across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, make repairs as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zone A3, repair dents to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. **Repair of 74A330847-2001 Springs On 74A330833 Strap Assembly.** These springs will be repaired by replacement with newly fabricated springs on an as required basis. Both left and right spring will be replaced even though only one spring is damaged. See figure 8. Replacement of springs is organizational maintenance. Fabrication and heat treatment of fabricated springs is intermediate maintenance.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Bolt (2)	NAS6303L3
Nut (2)	MS21042L3
Rivet, Solid (4)	BRFZ4T
Sealing Compound	MIL-S-83430, Class B-4
Springs (Fabricate)	17-7 PH Cres, 0.020 Sheet
Washer	AN960C10L

14. Removal.

- a. Open doors 74L/R (A1-F18AC-LMM-010).

NOTE

Care should be taken to position new spring in attitude and direction of removed spring.

- b. Remove two fasteners attaching 74A330847-2001 springs to strap assemblies, and two fasteners attaching springs to keel former.

- c. Enlarge two holes in keel former to 0.191 +0.006 -0.000 diameter.

- d. Have springs fabricated to dimensions shown.

15. Installation.

- a. Secure left spring to former and mate drill to 0.191 +0.006 -0.000 diameter.

- b. Remove left spring.

- c. Secure right spring to former and mate drill to 0.191 +0.006 -0.000 diameter.

- d. Remove right spring.

- e. Secure left and right springs to respective strap assemblies as shown.

- f. Mate drill 0.1285 +0.0055 -0.0000 diameter hole two places.

- g. Remove left and right springs.

- h. Clean and deburr springs and keel former or web.

- i. Install left and right springs to respective strap assemblies with two rivets as shown. Length determined on installation.



Sealing Compound



2

- j. Lay surface seal springs to former with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

- k. Install bolts, wet with MIL-S-83430 sealing compound, washers and nuts, preparation and application (A1-F18AC-SRM-200, WP011 00).

- l. Refinish repair area (A1-F18AC-SRM-500, WP036 00).

- m. Apply fire and thermal barrier coating (WP023 00) over repair.

- n. Close doors 74L/R (A1-F18AC-LMM-010).

16. **Strap Assembly 74A330833 Repair, Intermediate Maintenance.** See figure 9. Strap assemblies of 74A330833 can be repaired as shown.

Support Equipment Required

None

NOTE

Alternate item specification or part numbers are listed in parentheses.

Materials Required

Nomenclature	Specification or Part Number
Repair Doubler (AR)	6Al-4V Ti Anl (301 Stainless Steel, 1/2 Hard, MIL-S-5059)
Repair Shim (AR)	6Al-4V Ti Anl (301 Stainless Steel, 1/2 Hard, MIL-S-5059)
Rivet, Solid (AR)	CSR902B-3-()
Rivet, Solid (AR)	CSR902B-4-()

a. Remove strap assembly 74A330833, per Strap Assembly, 74A330833, Removal and Installation, this WP.

b. Remove damaged section of strap assembly as shown on sheet 1 or sheet 2. Cutting titanium (A1-F18AC-SRM-200, WP004 02).

c. Remove 74A330842 hinge if required.

d. Fabricate repair shim (shim) as required.

e. Fabricate repair doubler (doubler) as required.

f. Drill holes as indicated in shim and doubler (A1-F18AC-SRM-200, WP004 02).

g. Deburr all holes.

h. Secure shim to doubler by aligning holes as shown.

i. Mate drill remaining holes from shim to doubler.

j. Countersink holes in shim.

k. Install shim to doubler with CSR902B-3 rivets, length determined on installation.

l. Secure doubler assembly to existing strap assembly.

m. Mate drill all remaining holes from doubler to existing strap assembly.

n. Where the 74A330842 hinge has been removed, mate drill holes from existing strap assembly to doubler.

o. Countersink all newly drilled holes in existing strap assembly.

p. Remove doubler assembly from existing strap assembly.

q. Deburr all holes.

r. Install doubler assembly to existing strap assembly with CSR902B-4 rivets, length determined on installation.

s. Install 74A330842 hinge to doubler and existing strap assembly with CSR902B-4 rivets, when required. Rivet length determined on installation.

t. Install strap assembly 74A330833, per Strap Assembly, 74A330833, Removal and Installation, this WP.

17. Fastener Repair Attaching Doors 166 And 167 To 74A330684 Former. This repair is for fasteners that have worked loose from door hinge and mating former. One or both doors may be worked at the same time.

Support Equipment Required

None

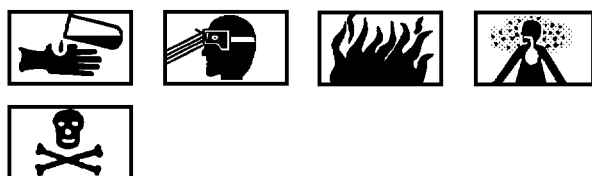
Materials Required**NOTE**

Alternate item part numbers are shown indented.

Nomenclature	Specification or Part Number
Brush, Varnish	H-B-695 Type 1, Grade A, Size 1
Cheesecloth	CCC-C-440, Type 1, Class 1
Collar (AR)	SW1000-5M
Methyl Ethyl Ketone	TT-M-261
Pin, Hi Lok (AR)	HLT311-5-4
Sealing Compound	MIL-S-22473, Grade A
Sealing Primer	MIL-S-22473, Grade T, Form R MIL-S-22473, Grade N, Form R

a. Remove door 68 (A1-F18AC-LMM-010).

b. Remove pins and collars from affected door and replace with new pins and collars, for fasteners go to Door 166 Replacement or Door 167 Replacement, below, this WP, as applicable.



Methyl Ethyl Ketone 17

c. Clean pin and collar threads with clean cheesecloth moistened with methyl ethyl ketone and wipe dry with clean dry cheesecloth.



Sealing Primer 18

d. Using brush, coat pin and collar threads with grade T sealing primer and allow to air dry for 15 minutes. Grade N sealing primer may be used as an alternate.

e. Align applicable door with holes in former and secure in place.

f. Install pins.



Sealing Compound 19

g. Using brush, coat pin and collar threads with grade A sealing compound.

h. Install collars and torque immediately.

i. Cure grade T sealing primer for 2 hours and grade N sealing primer for 12 hours.

j. Refinish if required (A1-F18AC-SRM-500, WP036 00).

k. Install door 68 (A1-F18AC-LMM-010).

18. TEMPORARY REPAIRS.

19. Fabrication of 74A330833 Strap Assemblies, Intermediate Maintenance. See figure 10. Fabricated strap assemblies can be used on aircraft until procurable spared items are available. Fabricated strap assemblies shall not be used as a permanent replacement for damaged straps.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Rivet, Solid (AR)	BRFZ4T()
Strap (Fabricate)	6Al-4V Ti Anl, MIL-T-9046

a. Remove damaged strap assembly from aircraft. See Replacement, Strap Assembly, 74A330833, Removal and Installation, this WP.

b. Measure length of strap only.

c. Select one of three dimensions given in figure 9 which most closely represents the dimension taken in step b.



Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

d. Remove hardware from ends of strap, and keep for reinstallation.

e. Fabricate new strap using dimension selected, working titanium (A1-F18AC-SRM-200, WP004 02).

f. Deburr holes.

NOTE

Secure hardware to same surface of strap.

g. Temporarily secure hardware removed in step d to fabricated strap.

h. Mate drill 0.1285 +0.0055 -0.0000 inch diameter holes from hardware into strap.

i. Remove hardware from strap.

j. Deburr holes.

k. Install hardware to strap with BRZF4T rivets, length determined on installation.

l. Install strap assembly. See Replacement, Strap Assembly, 74A330833, Removal and Installation, this WP.

20. REPLACEMENT.

21. **DOOR 74.** Door 74 is replaceable, trimming and drilling is required (A1-F18AC-SRM-200, WP004 03). Apply finish system as required (A1-F18AC-SRM-500, WP036 00). See figure 3 for receptacles and trim. For flare lock fasteners (A1-F18AC-SRM-440, FIG010 00). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

22. **DOOR 166.** Door 166 is interchangeable, apply markings as required (A1-F18AC-SRM-500, WP036 00). See figure 4 for receptacles and hinge attach rivets. For flare lock fasteners (A1-F18AC-SRM-440, FIG010 00). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8).

23. **DOOR 167.** Door 167 is interchangeable, apply markings as required (A1-F18AC-SRM-500, WP036

00). See figure 5 for receptacles and hinge attach rivets. For flare lock fasteners (A1-F18AC-SRM-440, FIG010 00). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8).

24. DOOR 74 REMOVAL AND INSTALLATION. See figure 3.

25. Removal.

a. Open doors 74, 64, and then door 68 (A1-F18AC-LMM-010).

b. Support door assembly.

c. Remove bonding jumper half attached to door 74.

d. Remove cotter pins, nuts, washers and bolts (4) from arms at door 68.

e. Remove door assembly.

26. Installation.

a. Align arms on door 74 with bushings on door 68.

b. Install bolts, washers, nuts and cotter pins (4) through arms at door 68.

c. Install bonding jumper half attached to door 74.

d. Close door 68 and then doors 74 and 64 (A1-F18AC-LMM-010).

27. STRAP ASSEMBLY, 74A330833, REMOVAL AND INSTALLATION. See figure 1.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Molybdenum Disulfide	MIL-M-7866
Rivet, Solid (2)	CSR903B-4
Sealing Compound	MIL-S-83430, Class B-4

28. Removal.

a. Open doors 74L/R (A1-F18AC-LMM-010).

b. From latch end of strap assembly, remove strap assembly by sliding strap through fairing retainers.

NOTE

Removal of fasteners attaching spring to former or web will remove both left and right hand springs simultaneously.



Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

c. Remove rivets or bolts as applicable from spring, retain bolts for reinstallation.

d. Slide strap assembly up as far as possible, remove lower strap assembly through fairing retainer.

e. Pull upper strap assembly downward, sliding strap through fairing retainers.

29. Installation.

a. On door, be sure latch on strap assembly is to inboard side of door, install strap assembly by sliding strap through fairing retainers.

b. Install upper strap assembly by sliding strap through fairing retainers as far as possible.

c. Install lower strap assembly by sliding strap through fairing retainer.



Sealing Compound

2

d. Lay surface seal springs to former or web as applicable with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

e. Install rivets, length determined on installation, or reinstall bolts set wet with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

f. Refinish area around spring (A1-F18AC-SRM-500, WP036 00).

g. Apply fire and thermal barrier coating (WP023 00) over area of spring and fasteners.



Molybdenum Disulfide

20

h. Apply MIL-M-7866 to areas of contact between straps and retainers.

i. Close doors 74L/R and set latch as required (A1-F18AC-LMM-010).

30. **HOLDER ASSEMBLY A2681-7, REPLACEMENT.** See figure 6.

Support Equipment Required

None

Materials Required

Specification or Part Number

Nomenclature

Rivet, Solid
Sealing Compound

BRFS5AD
MIL-S-83430, Class B-4

31. Removal.

a. Open door (A1-F18AC-LMM-010).



Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

b. Remove rivets attaching holder assembly to skin.

c. Remove holder assembly.

d. Remove sealing compound from holes and mating surface.

e. Clean area of foreign objects.

32. Installation.

a. Position holder assembly with pivot axis outboard and strut open through hole in skin.

NOTE

Close and open strut to make sure of proper operation before mate drilling holes.

b. Mate drill holes through holder assembly from skin. Holes are 0.161 +0.005 -0.000 inch diameter.

c. Remove holder assembly from skin and deburr all holes.

d. Clean area of foreign objects.



Sealing Compound

2

e. Treat for corrosion prevention (A1-F18AC-SRM-500, WP036 00). Fay surface seal mating parts with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

f. Install rivets set wet with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

g. Make sure drain hole in skin, near area of repair, is free of sealing compound.

h. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

i. Close door (A1-F18AC-LMM-010).

33. LATCH ASSEMBLY H2761-1 REPLACE-MENT. See figure 7.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Primer, Epoxy	MIL-P-85582
Rivet, Solid (6)	BRFZ6E

34. Removal.

a. Remove engine (A1-F18AC-270-300, WP003 00).



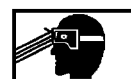
Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

b. Remove rivets attaching latch assembly to skin and door, six places.

c. Remove latch assembly.

d. Clean area of foreign objects.

35. Installation.



Epoxy Primer

21

a. Coat mating surfaces of housing and keeper with two coats of MIL-P-85582 epoxy primer. Let dry before installation.

b. Position housing to skin and keeper to door as shown.

c. Set rivets wet with one coat of primer.



Isopropyl Alcohol

1

d. Clean mold line surfaces of excess primer using clean cheesecloth moistened with isopropyl alcohol.

e. Clean area of foreign objects.

f. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

g. Close door (A1-F18AC-LMM-010).

h. Eyebolt may require adjusting to ensure contact with cam and eyebolt.

i. Open door (A1-F18AC-LMM-010).

j. Install engine (A1-F18AC-270-300, WP003 00).

Table 1. Negligible Damage Limits























































Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Former Zone A3 Zone B3	0.071 0.071	0.002 0.0006	0.002 0.0006	100% 100%	 0.036	NA NA
Fig 1 (2)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (3)	Former Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (4)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (5)	Former Zone A3 Zone B3	0.071 0.071	0.002 0.0006	0.002 0.0006	100% 100%	 0.036	NA NA
Fig 1 (6)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (7)	Former Zone A3 Zone B3	0.071 0.071	0.002 0.0006	0.002 0.0006	100% 100%	 	NA NA
Fig 1 (8)	Arm Zone A3	0.250	0.002	0.002	100%		NA
Fig 1 (11)	Plate Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (12)	Arm Zone A3	0.250	0.002	0.002	100%		NA
Fig 1 (13)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (14)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (15)	Ramp Zone A3	0.025	0.002	0.002	100%		NA
Fig 1 (16)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (17)	Filler Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (18)	Former Zone A3 Zone B3	0.071 0.071	0.002 0.0006	0.002 0.0006	100% 100%	 0.035	NA NA
Fig 1 (19)	Doubler Zone A3	0.063	0.002	0.002	100%		NA

Table 1. Negligible Damage Limits (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (40)	Hinge Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (42)	Hinge Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (43)	Fairing Zone A1	0.080	0.002	0.002	100%		
	Zone A1	0.055	0.002	0.002	100%		
	Zone A1	0.016	0.001	0.001	100%	0.008	
	Zone A1	0.032	0.002	0.002	100%	0.016	
Fig 1 (44)	Retainer Zone A1	0.032	0.002	0.002	100%		
Fig 1 (45)	Fairing Zone A1	0.080	0.002	0.002	100%		
	Zone A1	0.055	0.002	0.002	100%		
	Zone A1	0.016	0.001	0.001	100%	0.008	
	Zone A1	0.032	0.002	0.002	100%	0.016	
Fig 1 (46)	Fairing Zone A1	0.080	0.002	0.002	100%		
	Zone A1	0.055	0.002	0.002	100%		
	Zone A1	0.016	0.001	0.001	100%	0.008	
	Zone A1	0.032	0.002	0.002	100%	0.016	
Fig 1 (47)	Hinge Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (49)	Hinge Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (50)	Door 167 Zone A1	0.080	0.002	0.002	100%		
	Zone A1	Tapered 0.080 to 0.020	0.002	0.002	100%		
	Zone A1	0.016	0.001	0.001	100%	0.008	
	Zone A1	0.030	0.001	0.001	100%	0.015	
Fig 1 (51)	Fairing Zone A1	0.040	0.002	0.002	100%		
Fig 1 (52)	Retainer Zone A1	0.063	0.002	0.002	100%		
Fig 1 (53)	Fairing Zone A1	0.040	0.002	0.002	100%		

NOTE


 None allowed.

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Former Zone A3 Zone B3	0.071 0.071	0.014 0.014	0.014 0.014	25% 25%	0.014 0.014	25% 25%
Fig 1 (2)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (3)	Former Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (4)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (5)	Former Zone A3 Zone B3	0.071 0.071	0.014 0.014	0.014 0.014	25% 25%	0.014 0.014	25% 25%
Fig 1 (6)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (7)	Former Zone A3 Zone B3	0.071 0.071	0.014 0.014	0.014 0.014	25% 25%	0.014 0.014	25% 25%
Fig 1 (8)	Arm Zone A3	0.250	0.050	0.050	25%	0.050	25%
Fig 1 (11)	Plate Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (12)	Arm Zone A3	0.250	0.050	0.050	25%	0.050	25%
Fig 1 (13)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (14)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (15)	Ramp Zone A3	0.025	0.005	0.005	25%	0.005	25%
Fig 1 (16)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (17)	Filler Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (18)	Former Zone A3 Zone B3	0.071 0.071	0.014 0.014	0.014 0.014	25% 25%	0.014 0.014	25% 25%
Fig 1 (19)	Doubler Zone A3	0.063	0.012	0.012	25%	0.012	25%
Fig 1 (20)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (21)	Doubler Zone A3	0.063	0.012	0.012	25%	0.012	25%
Fig 1 (22)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (23)	Former Zone A3 Zone B3	0.071	0.014	0.014	25%	0.014	25%
		0.071	0.014	0.014	25%	0.014	25%
Fig 1 (24)	Channel Zone A3	0.050	0.010	0.010	25%	0.010	25%
Fig 1 (25)	Intercostal Zone A3	0.071	0.014	0.014	25%	0.014	25%
Fig 1 (26)	Former Zone A3	0.125	0.025	0.025	25%	0.014	25%
Fig 1 (27)	Strap Zone A1	0.090	0.018	0.018	25%	0.018	25%
Fig 1 (29)	Skin Zone A3 Zone A3	0.050	0.010	0.010	25%	0.010	25%
		0.080	0.016	0.016	25%	0.016	25%
Fig 1 (30)	Cover Zone A1	0.025	0.005	0.005	100%	0.005	100%
Fig 1 (33)	Strap Zone A1	0.090	0.018	0.018	25%	0.018	25%
Fig 1 (34)	Strap Zone B1 Zone B1	0.025	0.005	0.005	100%	0.005	100%
		0.063	0.012	0.012	100%	0.012	100%
Fig 1 (36)	Strap Zone B1 Zone B1	0.025	0.005	0.005	100%	0.005	100%
		0.063	0.012	0.012	100%	0.012	100%
Fig 1 (38)	Strap Zone B1 Zone B1	0.025	0.005	0.005	100%	0.005	100%
		0.063	0.012	0.012	100%	0.012	100%
Fig 1 (39)	Door 166 Zone A1	0.080	0.016	0.016	25%	0.016	25%
	Zone A1	0.016	0.003	0.003	25%	0.003	25%
	Zone A1	0.030	0.006	0.006	25%	0.006	25%
	Zone A1	Tapered 0.080 to 0.020	0.004	0.004	25%	0.004	25%
Fig 1 (40)	Hinge Zone A1	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (42)	Hinge Zone A1	0.080	0.016	0.016	25%	0.016	25%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (43)	Fairing Zone A1	0.080	0.016	0.016	25%	0.016	25%
	Zone A1	0.050	0.011	0.011	25%	0.011	25%
	Zone A1	0.016	0.003	0.003	25%	0.003	25%
	Zone A1	0.032	0.006	0.006	25%	0.006	25%
Fig 1 (44)	Retainer Zone A1	0.032	0.012	0.012	25%	0.012	25%
Fig 1 (45)	Fairing Zone A1	0.080	0.016	0.016	25%	0.016	25%
	Zone A1	0.055	0.011	0.011	25%	0.011	25%
	Zone A1	0.016	0.003	0.003	25%	0.003	25%
	Zone A1	0.032	0.006	0.006	25%	0.006	25%
Fig 1 (46)	Fairing Zone A1	0.080	0.016	0.016	25%	0.016	25%
	Zone A1	0.055	0.011	0.011	25%	0.011	25%
	Zone A1	0.016	0.003	0.003	25%	0.003	25%
	Zone A1	0.032	0.006	0.006	25%	0.006	25%
Fig 1 (47)	Hinge Zone A1	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (49)	Hinge Zone A1	0.080	0.016	0.016	25%	0.016	25%
Fig 1 (50)	Door 167 Zone A1	0.080	0.016	0.016	25%	0.016	25%
	Zone A1	Tapered 0.080 to 0.020	0.004	0.004	25%	0.004	25%
	Zone A1	0.016	0.003	0.003	25%	0.003	25%
	Zone A1	0.030	0.006	0.006	25%	0.006	25%
Fig 1 (51)	Fairing Zone A1	0.040	0.008	0.008	25%	0.008	25%
Fig 1 (52)	Retainer Zone A1	0.063	0.012	0.012	25%	0.012	25%
Fig 1 (53)	Fairing Zone A1	0.040	0.008	0.008	25%	0.008	25%

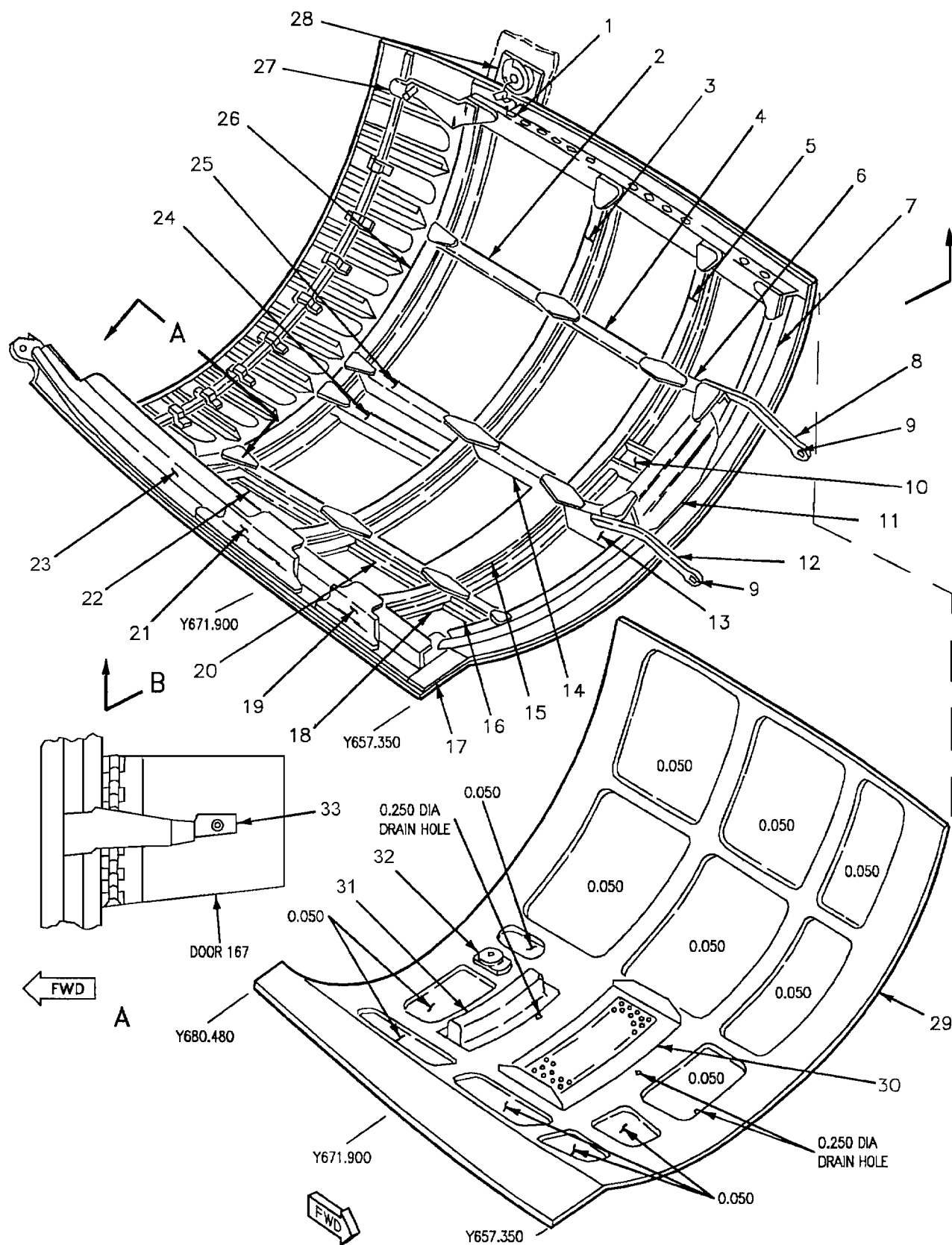


Figure 1. Material Index (Sheet 1)

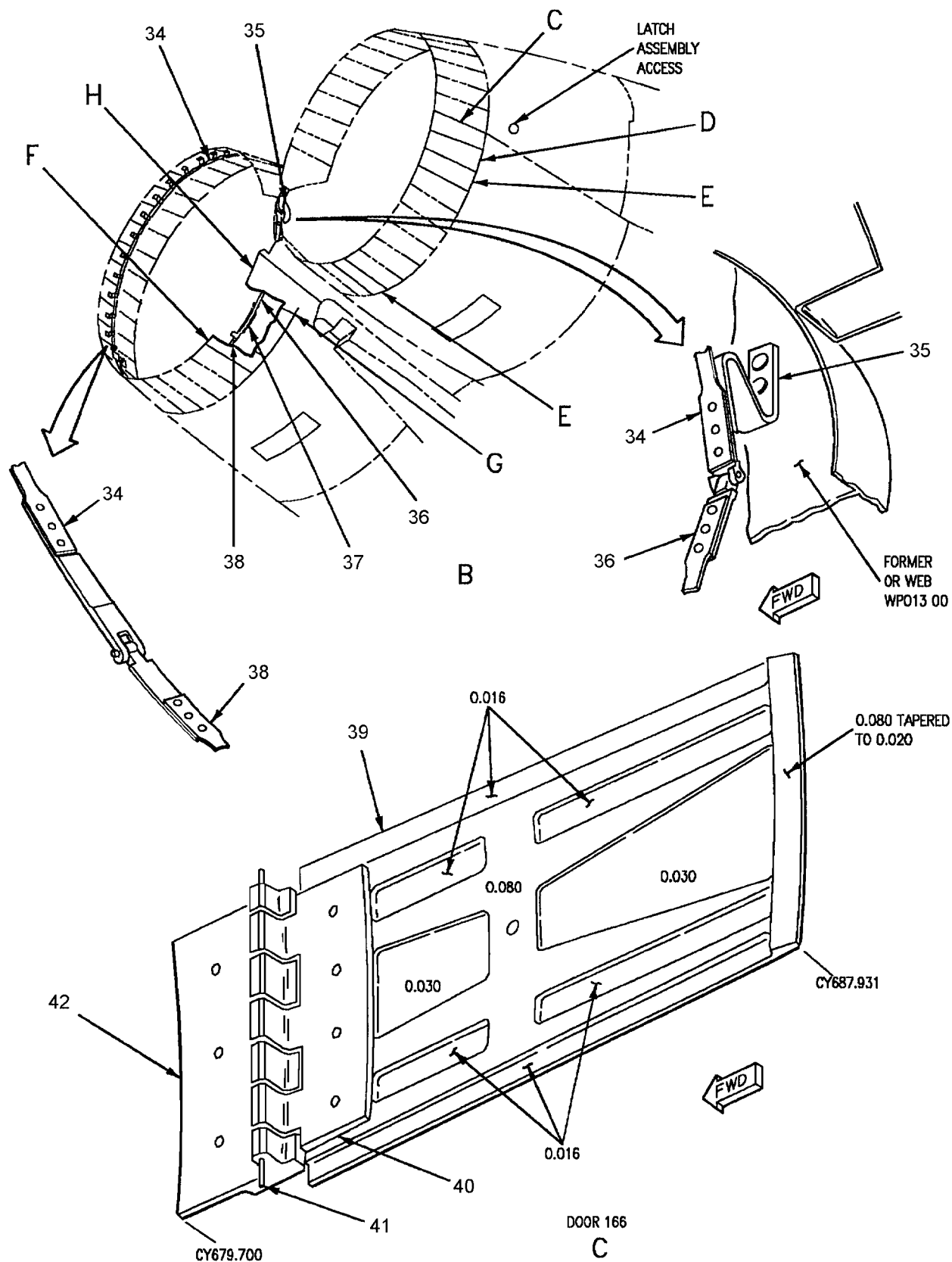


Figure 1. Material Index (Sheet 2)

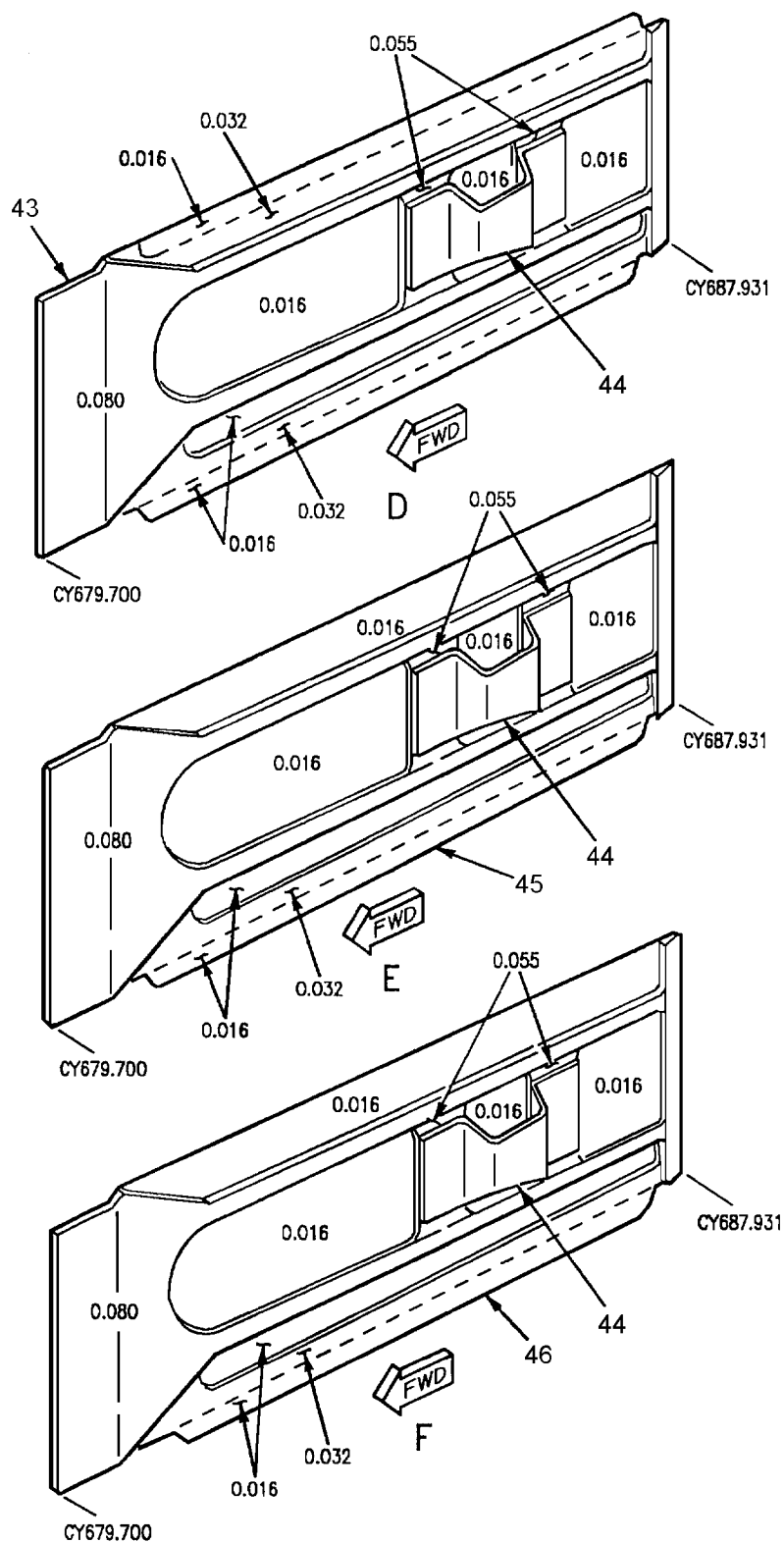


Figure 1. Material Index (Sheet 3)

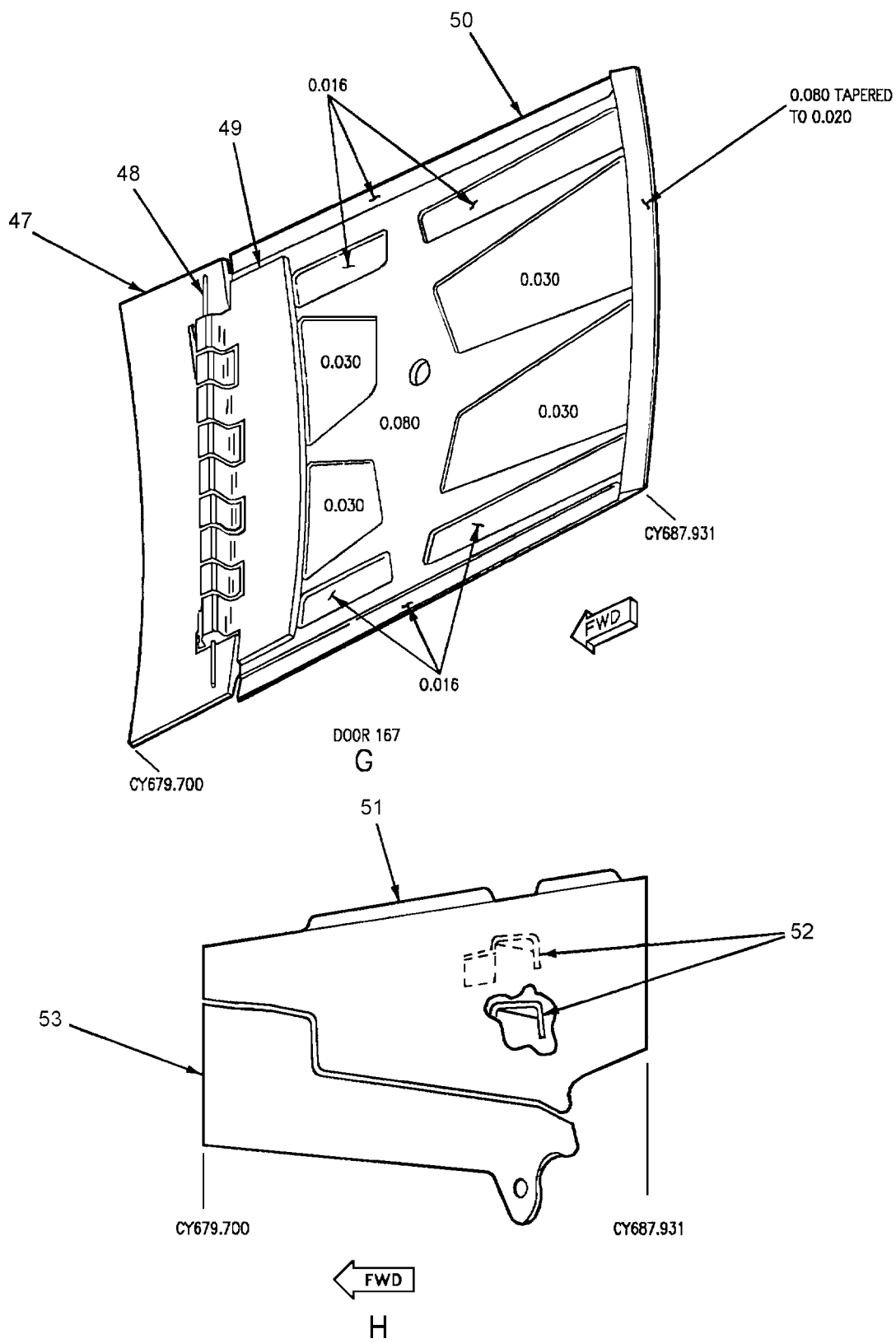


Figure 1. Material Index (Sheet 4)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Former 74A330635-2005, -2006	0.071 Sheet	2024-T72 Al Aly
2		Intercostal 74A330687-2017, -2018	0.071 Sheet	2024-T72 Al Aly
3		Former 74A330683-2003, -2004	0.071 Sheet	2024-T72 Al Aly
4		Intercostal 74A330687-2015, -2016	0.071 Sheet	2024-T72 Al Aly
5		Former 74A330682-2005, -2006	0.071 Sheet	2024-T72 Al Aly
6		Intercostal 74A330687-2031, -2032	0.071 Sheet	2024-T72 Al Aly
7		Former 74A330681-2005, -2006	0.071 Sheet	2024-T72 Alclad
8		Arm 74A330686-2001, -2002	Machined Plate	2024-T851 Al Aly
9		Bushing NAS76A6-008	Machined	Al Bronze
10		Latch H2802-3, -4	Assembly	-
11		Plate 74A330687-2019, -2020	0.071 Sheet	2024-T72 Al Aly
12		Arm 74A330685-2001, -2002	Machined Plate	2024-T851 Al Aly
13		Intercostal 74A330687-2029, -2030	0.071 Sheet	2024-T72 Al Aly
14		Intercostal 74A330687-2009, -2010	0.071 Sheet	2024-T72 Al Aly
15		Ramp 74A330689-2001, -2002	0.025 Sheet	2024-T72 Alclad
16		Intercostal 74A330687-2001, -2002	0.071 Sheet	2024-T72 Al Aly
17		Filler 74A330616-2001	0.071 Sheet	2024-T81 Al Aly
18		Former 74A330682-2003, -2004	0.071 Sheet	2024-T72 Al Aly

Figure 1. Material Index (Sheet 5)



Idx No.	Eft	Nomenclature and Part No.	Description	Material
19		Doubler 74A330696-2009, -2010	0.063 Sheet	2024-T72 Al Aly
20		Intercostal 74A330687-2003, -2004	0.071 Sheet	2024-T72 Al Aly
21		Doubler 74A330696-2011, -2012	0.063 Sheet	2024-T72 Al Aly
22		Intercostal 74A330687-2027, -2028	0.071 Sheet	2024-T72 Al Aly
23		Former 74A330696-2013, -2014	0.071 Sheet	2024-T72 Al Aly
24		Channel 74A330687-2033, -2034	0.050 Sheet	2024-T72 Al Aly
25		Intercostal 74A330687-2011, -2012	0.071 Sheet	2024-T72 Al Aly
26		Former 74A330684-2001, -2002	1MA10364B01 Extr	2024-T62 Al Aly
27		Strap 74A330845-2007, -2008	0.090 Sheet	6Al-4V Ti Anl
28		Latch Assembly H2761-1	-	-
29		Skin 74A330701-2003, -2004	Sheet	2024-T72 Alclad
30		Cover 74A330866-2007	0.025 Perforated Sheet	302 Cres Anl
31		Holder A2681-7	Assembly	6061-T6 Al Aly
32		Receiver RI2681-2	0.050 Plate	-
33		Strap 74A330845-2005, -2006	0.090 Sheet	6Al-4V Ti Anl
34		Strap Assembly 74A330833-2005 74A330833-2009		6Al-4V Ti Anl
35		Spring 74A330847-2001	0.020 Sheet	17-7PH Cres

Figure 1. Material Index (Sheet 6)







Idx No.	Eft	Nomenclature and Part No.	Description	Material
36	 	Strap Assembly 74A330833-2007 74A330833-2011		6Al-4V Ti Anl
37		Latch Assembly H2768-11, -12	-	6Al-4V Ti Anl
38	 	Strap Assembly 74A330833-1003, -1004 74A330833-1009, -1010		6Al-4V Ti Anl
39		Door 166 74A330837-2005	Sheet	6Al-4V Ti Anl
40		Hinge Half 74A330839-2001	Machined Bar	6Al-4V Ti Anl
41		Pin 74A330830-2007	MS20253-2-275 0.089 Dia Wire	Cres
42		Hinge Half 74A330838-2001	Machined Bar	6Al-4V Ti Anl
43		Fairing Segment 74A330832-2003, -2004	Sheet	6Al-4V Ti Anl
44		Retainer 74A330836-2001	0.032 Sheet	6Al-4V Ti Anl
45		Fairing Segment 74A330832-2001, 2002	Sheet	6Al-4V Ti Anl
46		Fairing Segment 74A330832-2007, -2008	Sheet	6Al-4V Ti Anl
47		Hinge Half 74A330840-2001	Machined Bar	6Al-4V Ti Anl
48		Pin 74A330830-2005	MS20253-2-418 0.089 Dia Wire	Cres
49		Hinge Half 74A330841-2001	Machined Bar	6Al-4V Ti Anl
50		Door 167 74A3308370-2007, -2008	Sheet	6Al-4V Ti Anl
51		Fairing 74A330835-2013, -2014	0.040 Sheet	6Al-4V Ti Anl

Figure 1. Material Index (Sheet 7)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
52	<div><div>1</div><div>2</div></div>	Retainer 74A330836-2003 74A330836-2005	0.063 Sheet	6Al-4V Ti Anl
53		Fairing 74A330836-2017, -2015	0.040 Sheet	6Al-4V Ti Anl
LEGEND				
<div><div>1</div> 161353 THRU 161705, 161707.</div>				
<div><div>2</div> 161706, 161708 THRU 161741.</div>				
<div><div>3</div> Strap portion of assembly is 0.063 stock with machined thicknesses of 0.025 in alternate order.</div>				

Figure 1. Material Index (Sheet 8)

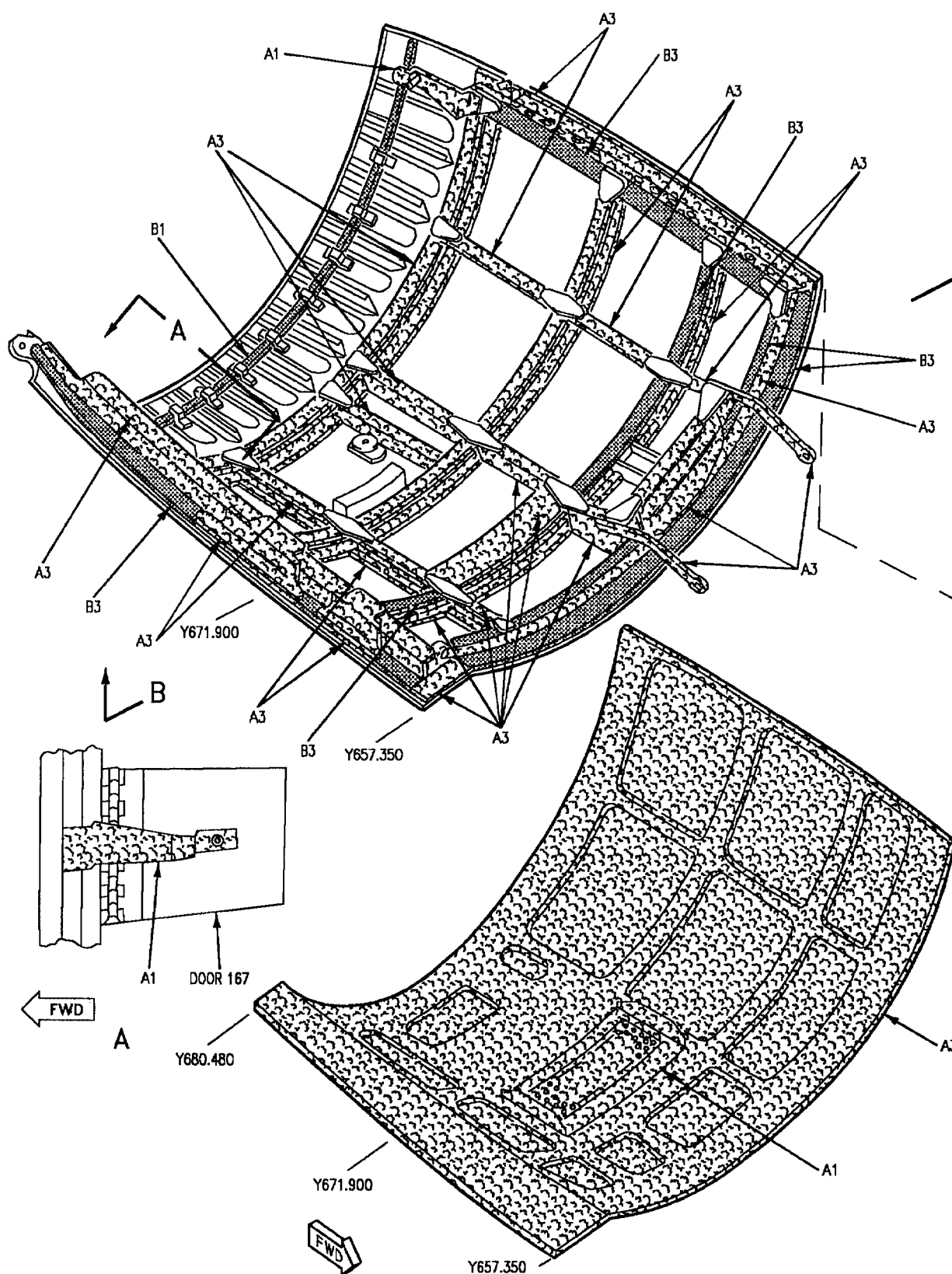


Figure 2. Repair Zones (Sheet 1)

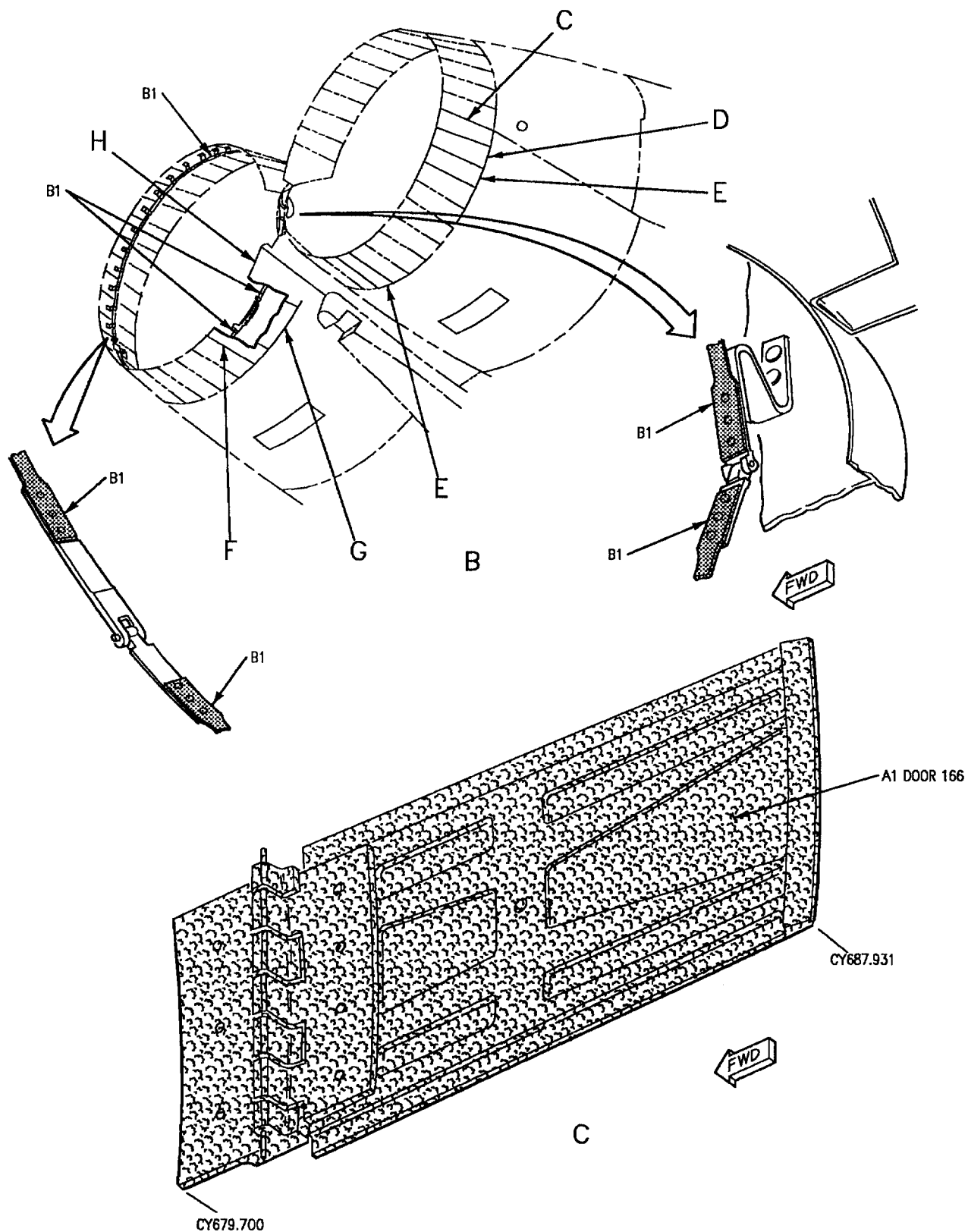


Figure 2. Repair Zones (Sheet 2)

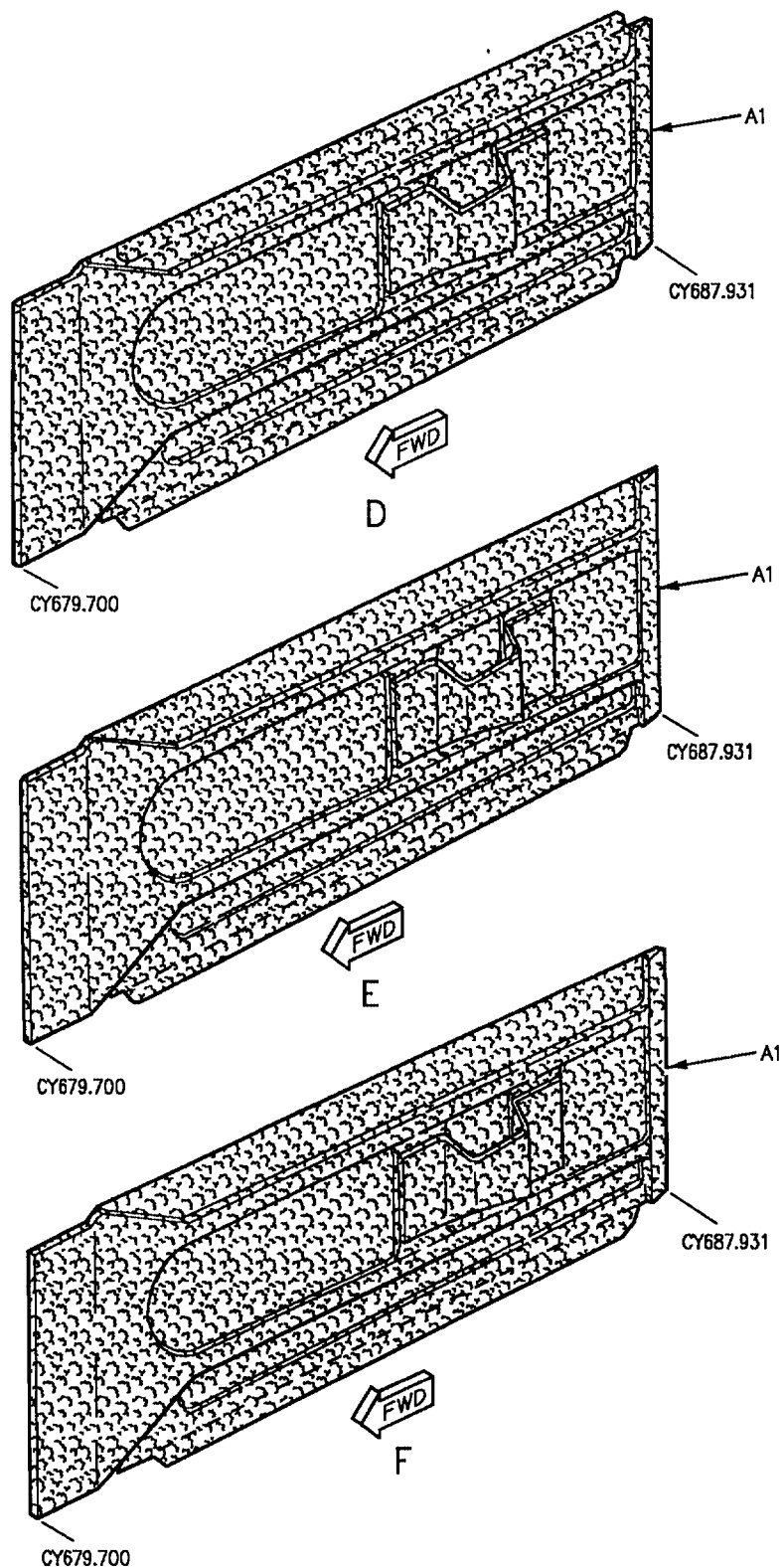


Figure 2. Repair Zones (Sheet 3)

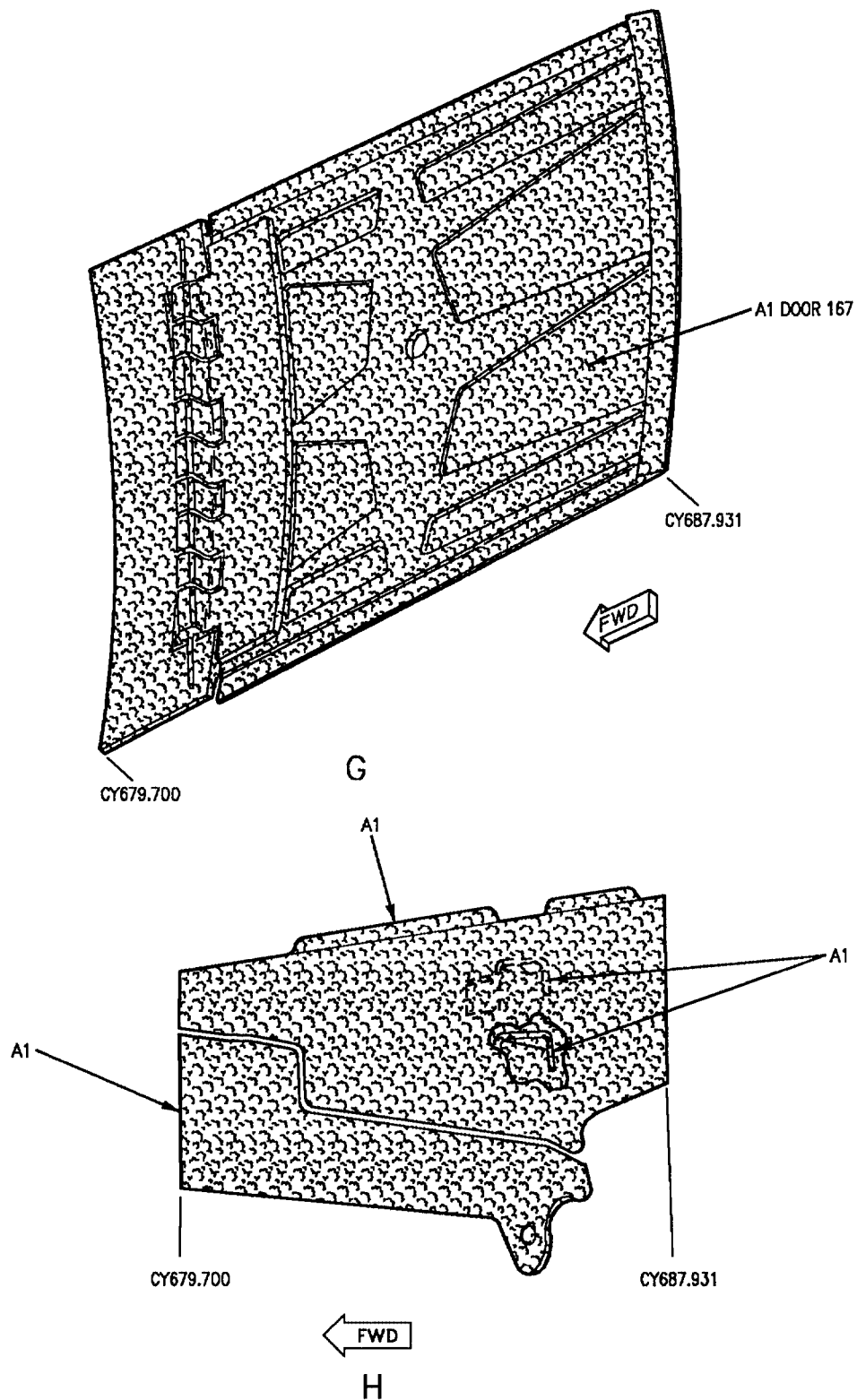


Figure 2. Repair Zones (Sheet 4)

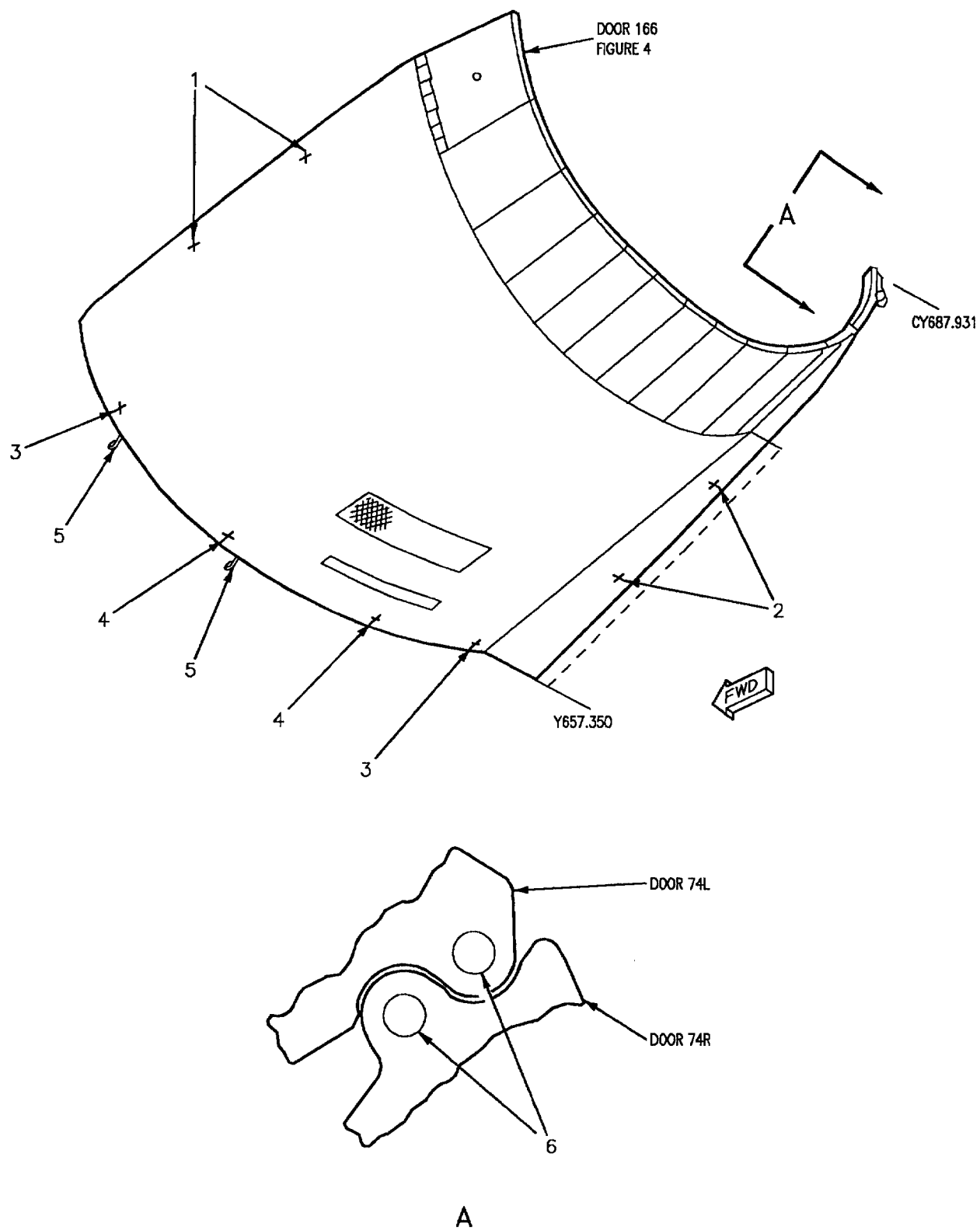


Figure 3. Door 74 Replacement (Sheet 1)



















Idx No.	Eft		Nomenclature	Part Number
1			Receptacle  Receptacle 	1950-6-12-0  1960-6-12-0 
2			Receptacle 	1960-6-9-2
3			Receptacle 	1950-6-12-0
4			Receptacle 	1950-6-10-2
5			Bolt Washer Nut Cotter Pin	S11-1065-5D26 AN960C516 79537-524 MS24665-153
6			Receptacle 	1960-6-9-1
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.377 +0.005 -0.000.</p> <p> Hole diameter is 0.3750 +0.0015 -0.0000 in bushing, and 0.5000 +0.0005 -0.0000 in structure.</p> <p> Attached with NAS1097AD4 rivets, length determined on installation.</p> <p> A1950-6-12-0 two lug floating receptacle or a 1960-6-12-0 corner receptacle may have been installed at this location, for replacement, order like part to eliminate redrilling of fastener holes.</p>				

Figure 3. Door 74 Replacement (Sheet 2)

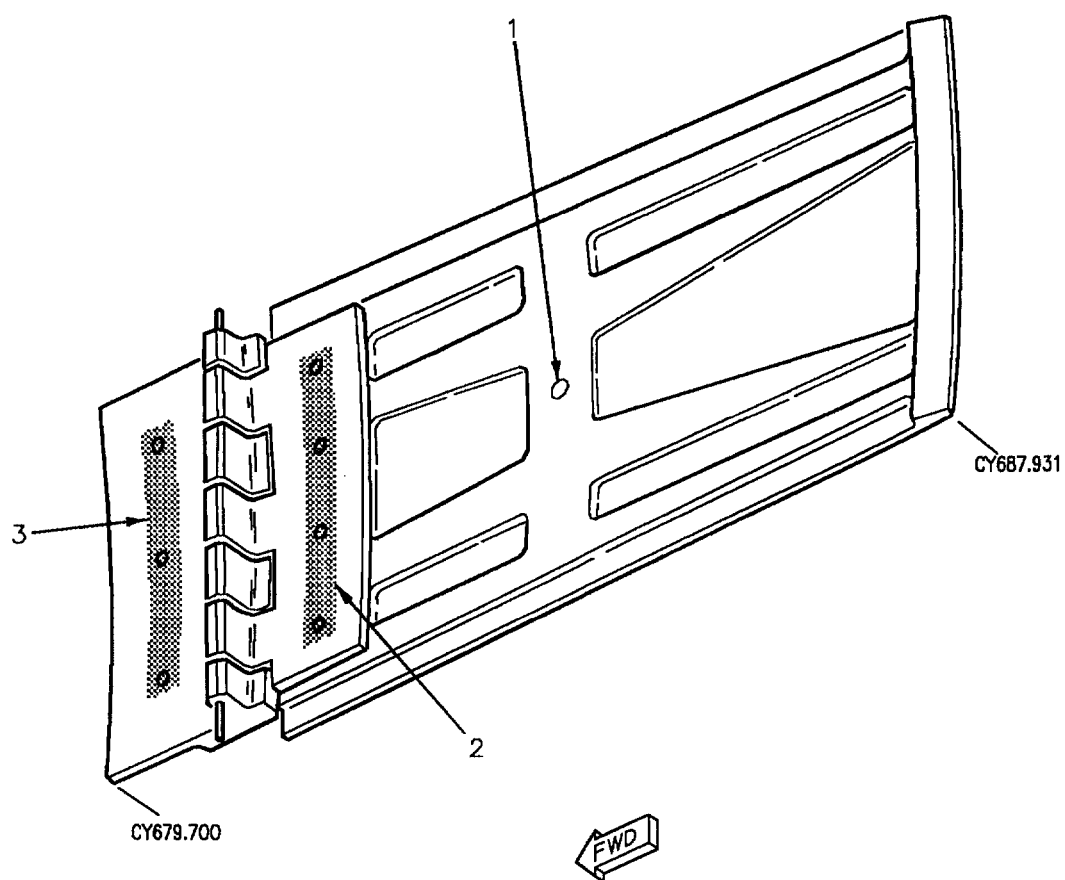


Figure 4. Door 166 Replacement (Sheet 1)











Idx No.	Eft		Nomenclature	Part Number
1			Receptacle 	195012-6-8-0
2			Rivet	BRFZ5T6 
3			Pin Collar	HLT311-5-4 SW1000-5M
LEGEND				
 Hole diameter is 0.377 +0.005 -0.000.				
 Hole diameter is 0.161 +0.005 -0.000.				
 Attached with CSR902B-4 rivets, length determined on installation.				
 Hole diameter is 0.1635 +0.0025 -0.0000.				
 Preferred replacement for CSR904B-5-6 rivet.				

Figure 4. Door 166 Replacement (Sheet 2)

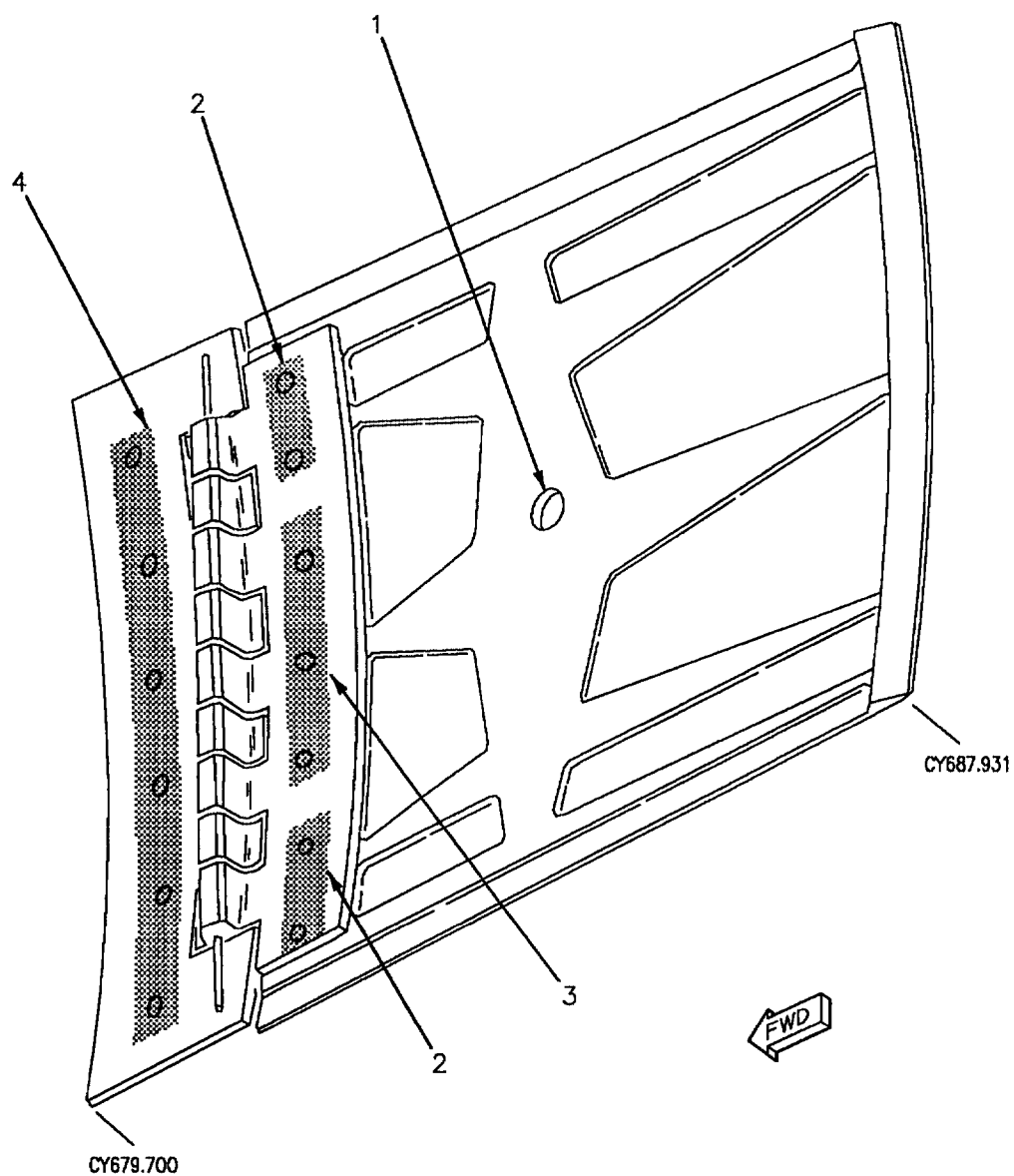


Figure 5. Door 167 Replacement (Sheet 1)













Idx No.	Eft		Nomenclature	Part Number
1			Receptacle 	195012-6-8-0
2			Pin Collar	HLT311-5-3 SW1000-5M
3			Rivet	BRFZ5T6 
4			Pin Collar	HLT311-5-4 SW1000-5M
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.377 +0.005 -0.000.</p> <p> Hole diameter is 0.1635 +0.0022 -0.0000.</p> <p> Hole diameter is 0.161 +0.005 -0.000.</p> <p> Attached with CSR902B-4 rivets, length determined on installation.</p> <p> Hole diameter is 0.1635 +0.0025 -0.0000.</p> <p> Preferred replacement for CSR904B-5-6 rivet.</p>				

Figure 5. Door 167 Replacement (Sheet 2)

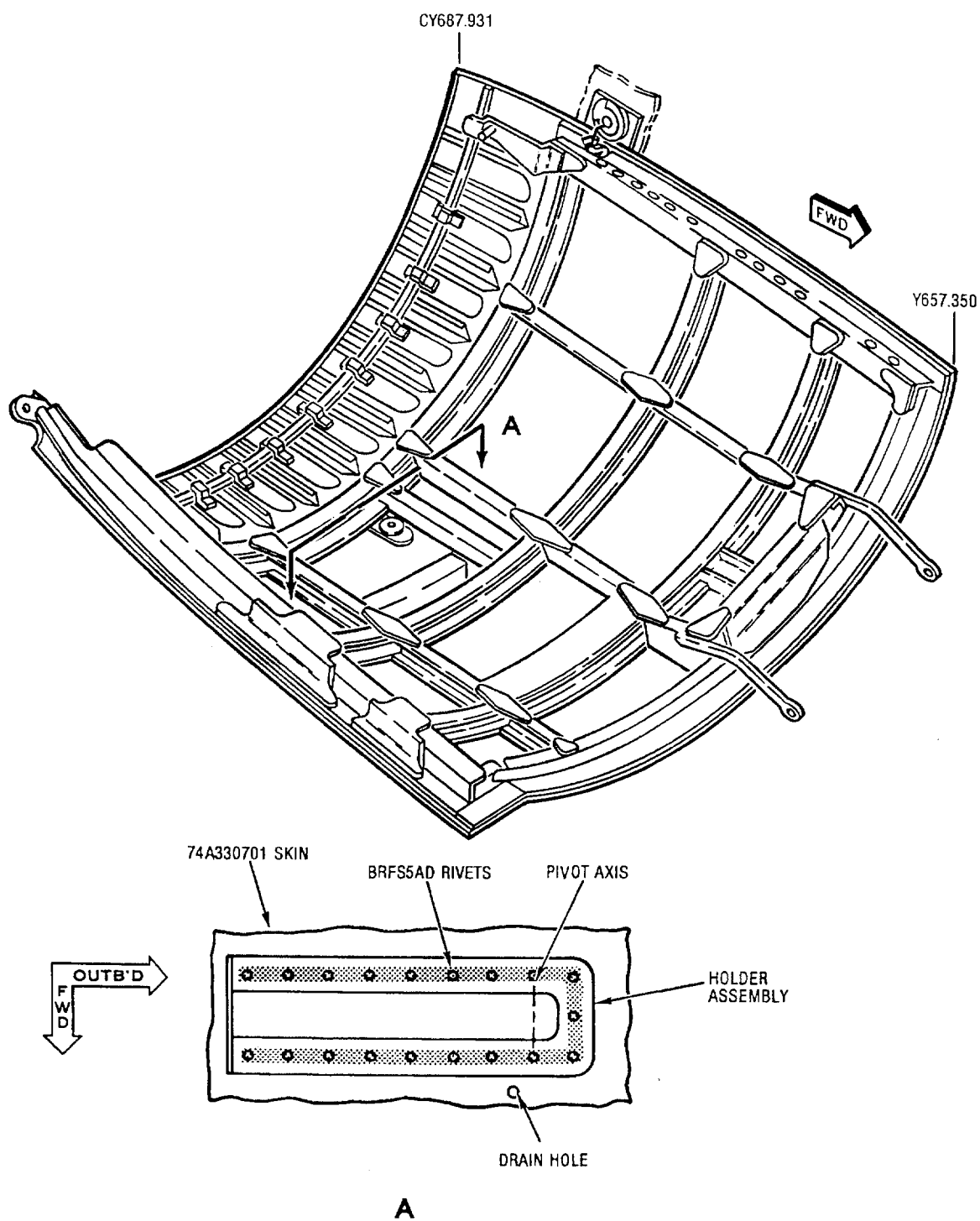


Figure 6. A2681-7 Holder Assembly Replacement

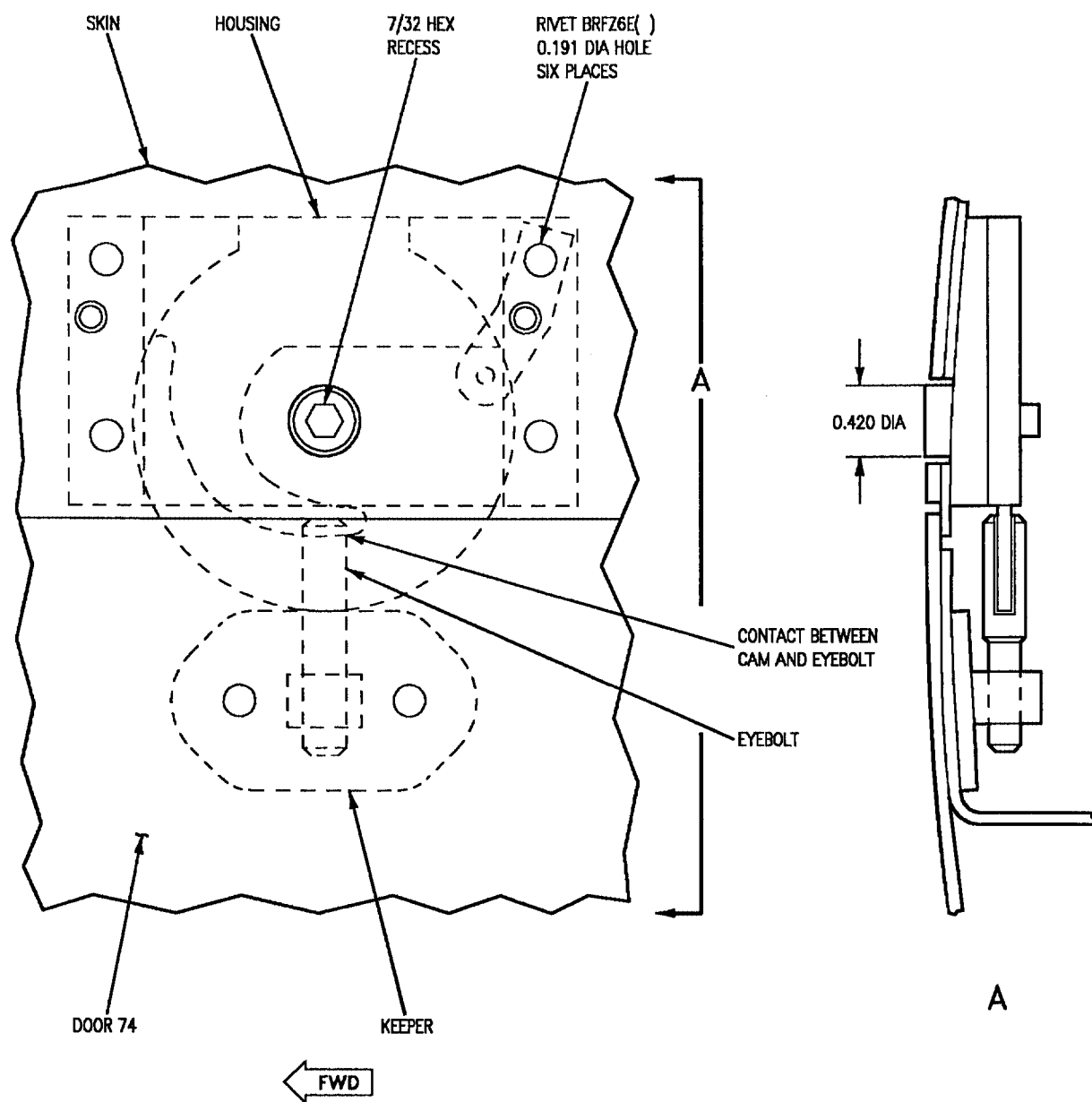


Figure 7. Latch Assembly H2761-1 Replacement

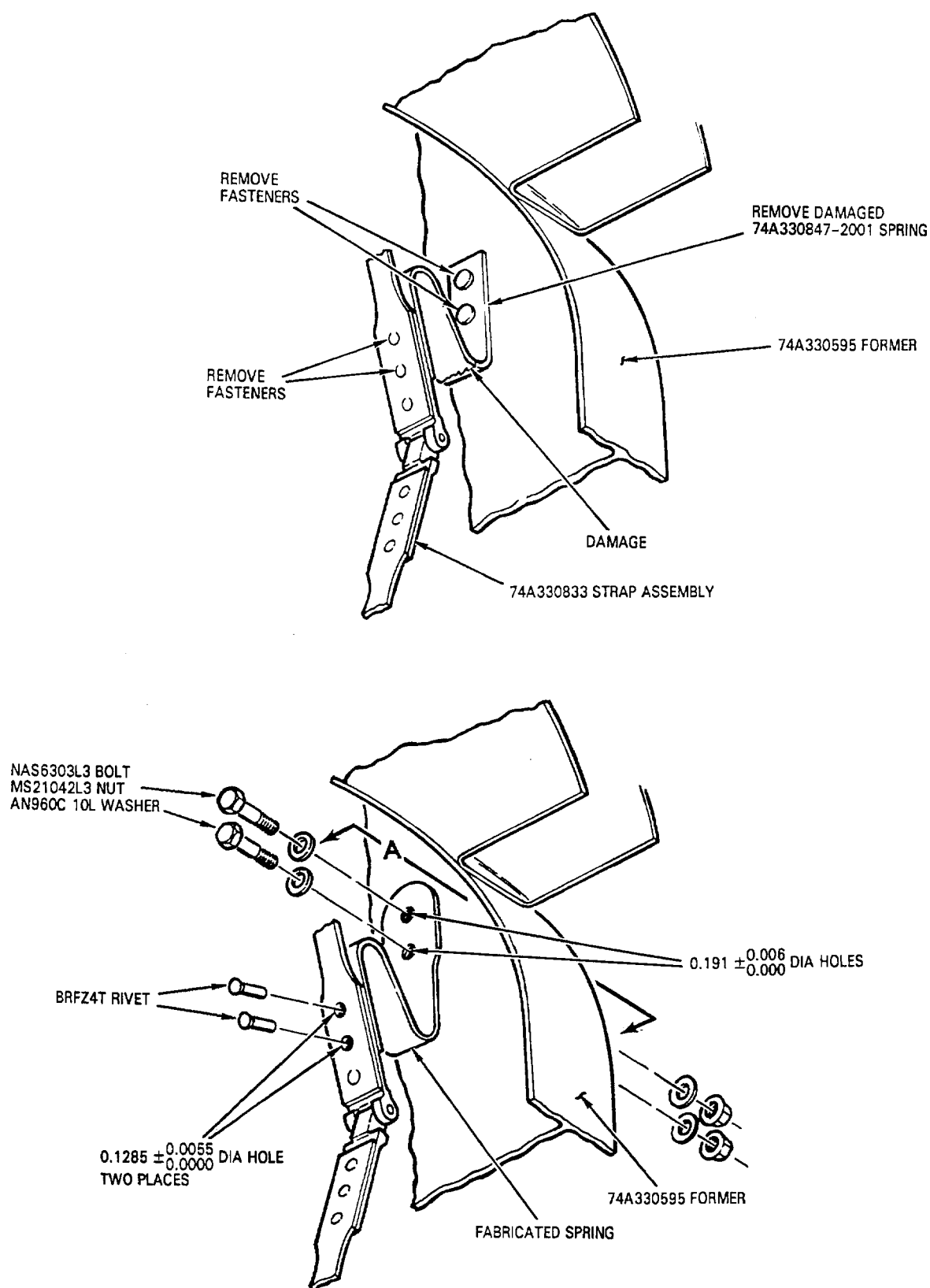


Figure 8. Repair 74A330847-2001 Spring (Sheet 1)

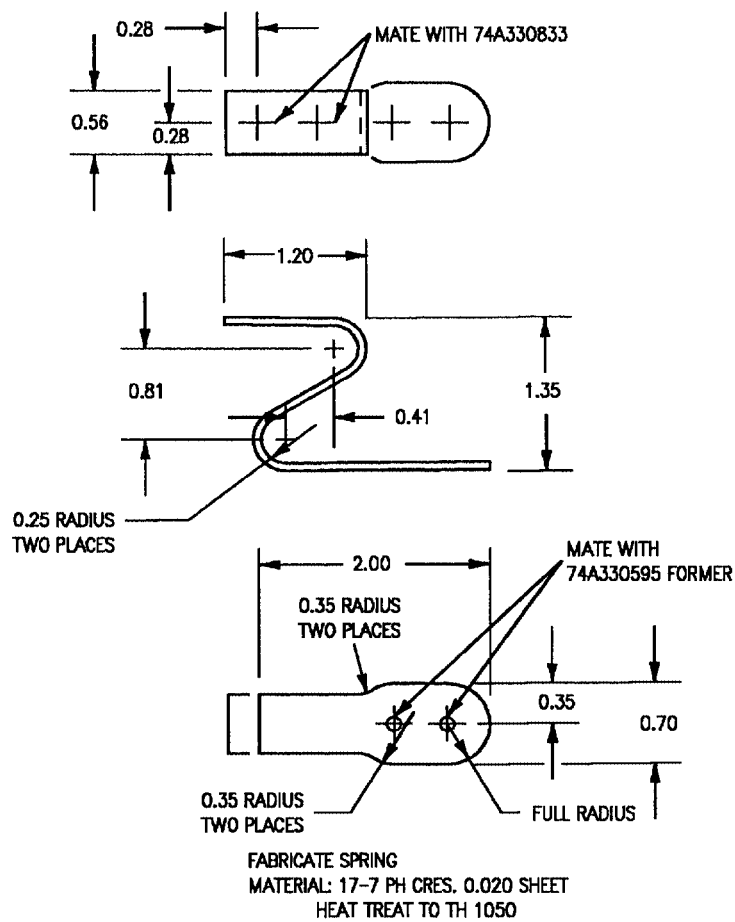
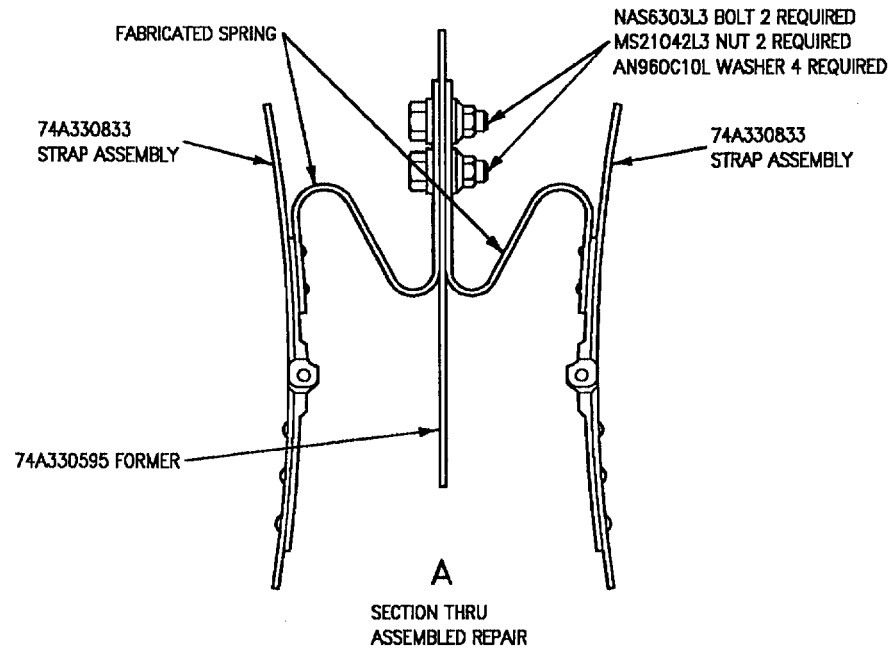


Figure 8. Repair 74A330847-2001 Spring (Sheet 2)

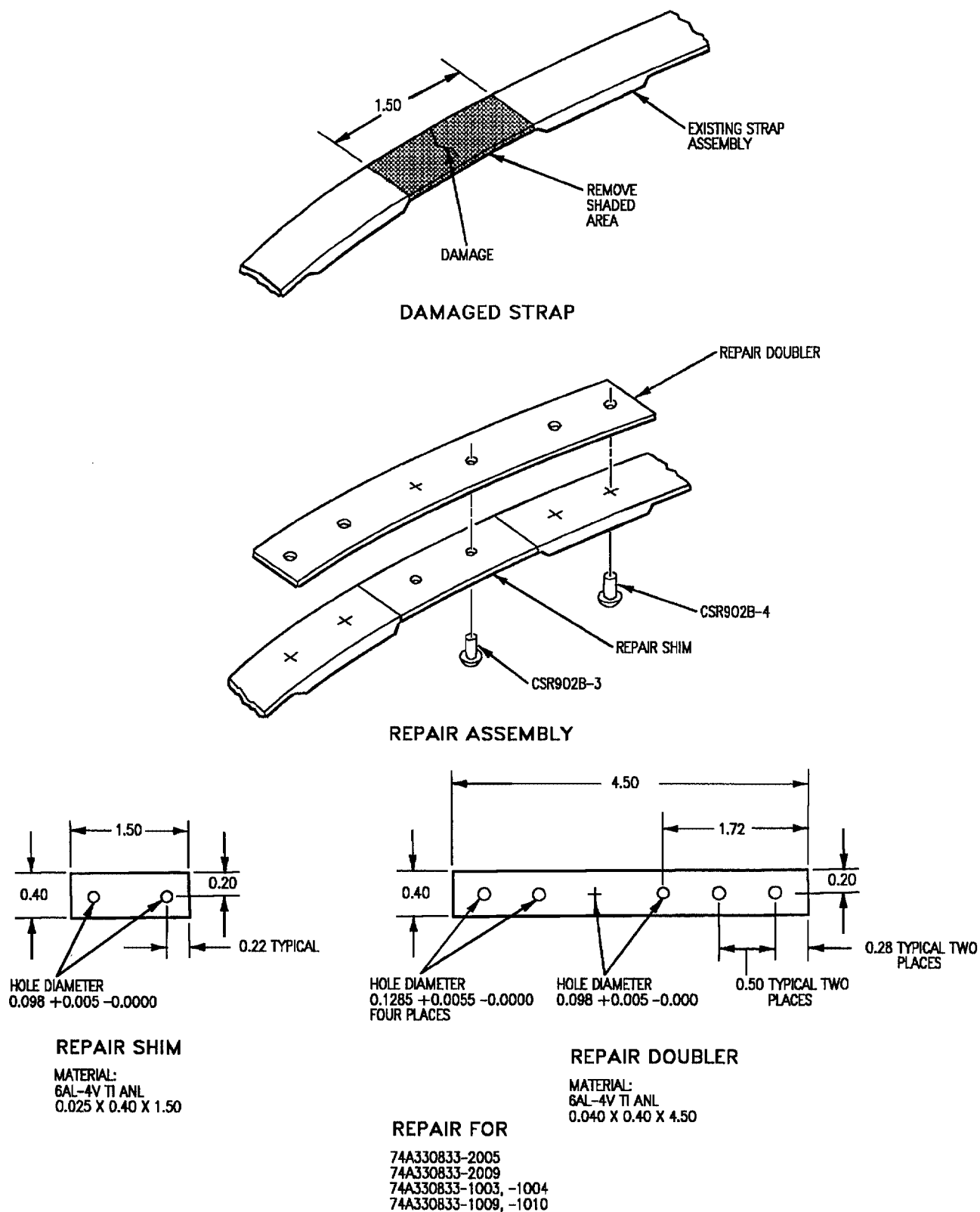


Figure 9. Strap Assembly Repair (Sheet 1)

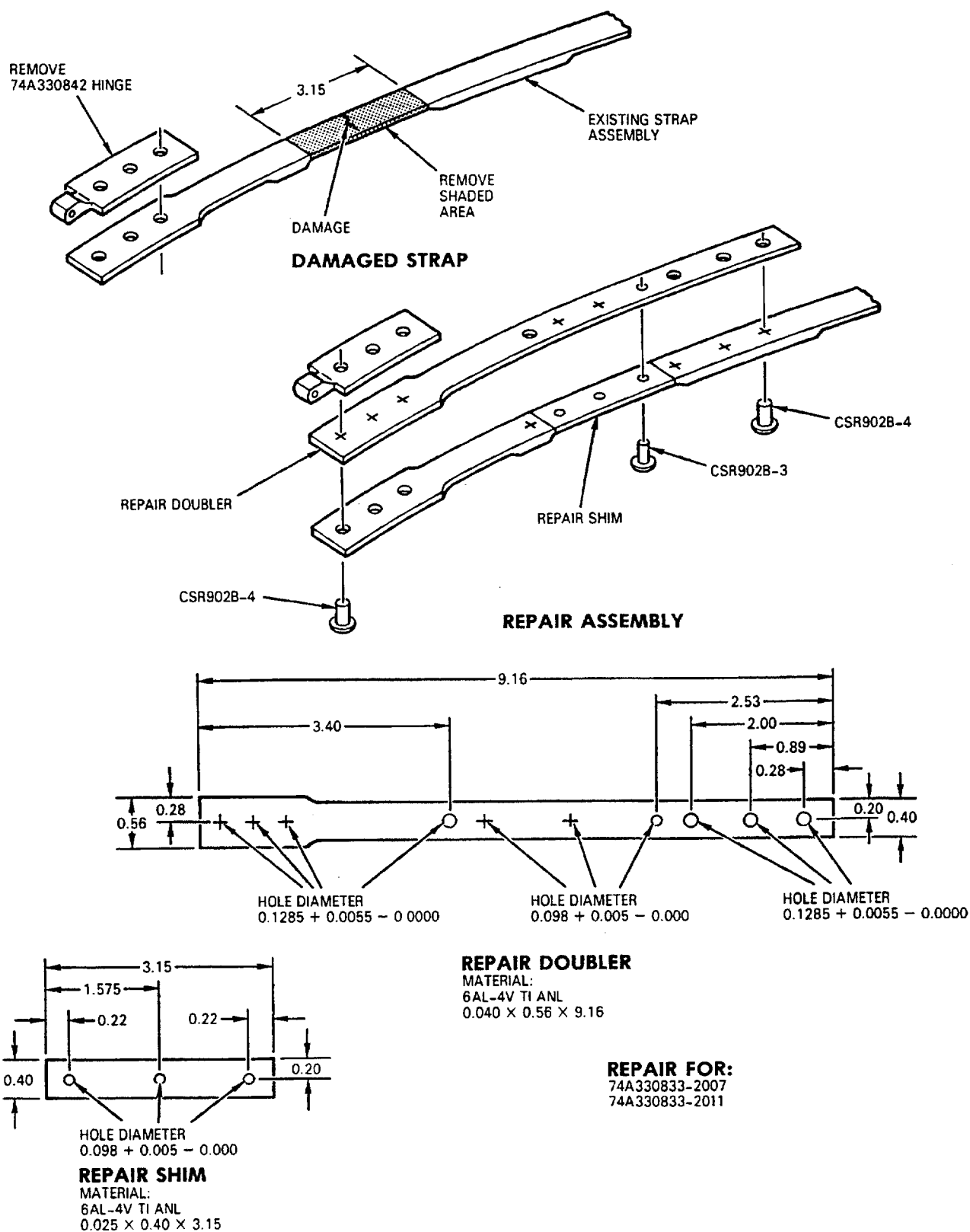
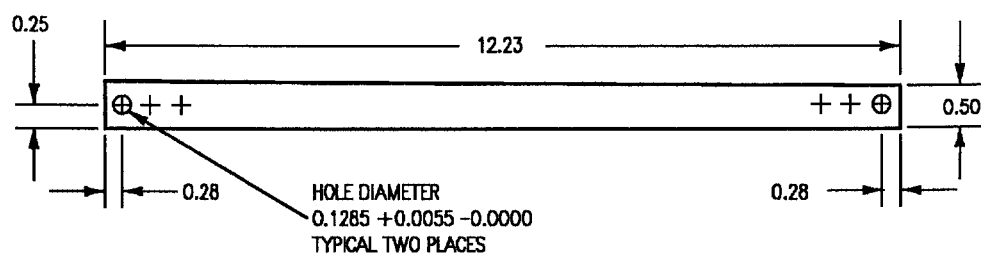
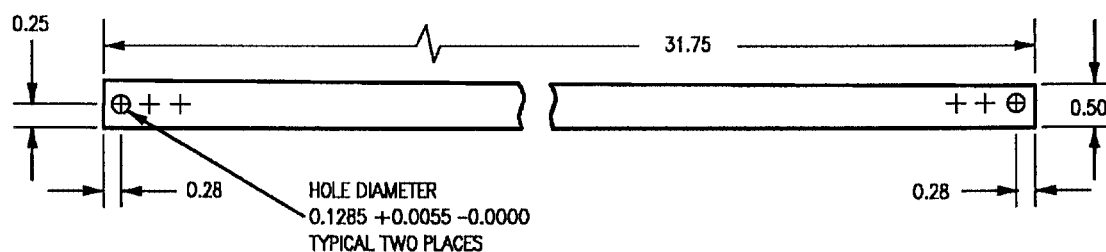
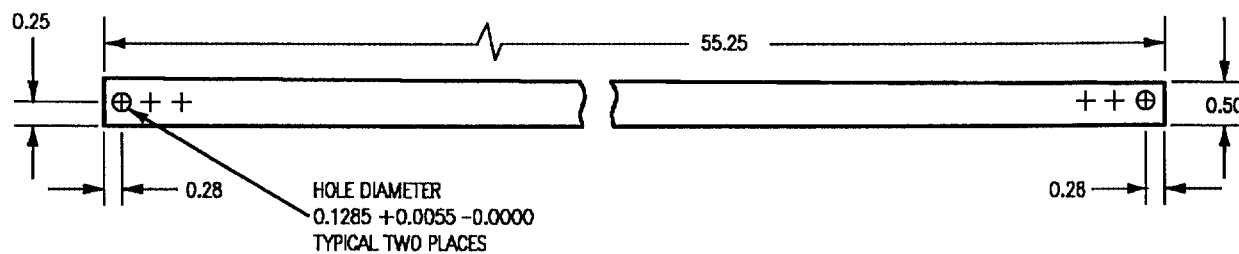


Figure 9. Strap Assembly Repair (Sheet 2)



MATERIAL : 6Al-4v TI ANNEALED
MIL-T-9046
0.040 X 0.50 X ()

Figure 10. Temporary Repair For 74A330833 Strap Assemblies

ORGANIZATIONAL MAINTENANCE
STRUCTURE REPAIR
CENTER ENGINE ACCESS DOOR (DOOR 68)
EFFECTIVITY: 161353 THRU 161741

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Arresting Hook Support, RE274332520-1 Alignment Device and Hole Transfer Frame, RE174332520-1 Installation and Component Replacement	WP006 01
Components, Center Engine Access Door (Door 68) and Forward Section of Combined Engine Access Door (Door 68) Replacement	WP019 03
Center Engine Access Door (Door 68) or Combined Aft and Center Engine Access Door (Door 68), Fuselage Drop Link Bushing Drill Jig, RE174331670-1 and Bushing Replacement	WP019 04
Aircraft Corrosion Control	A1-F18AC-SRM-500
Chemical Treatment	WP008 00
Form in Place Sealing	WP010 00
Priming Procedures	WP011 00
Aft Fuselage Finish System and Markings	WP036 00
Communications, TACAN, ADF, Electronic Altimeter and IFF Systems	A1-F18AC-600-300
Antenna AS-2595/APN-194(V) (67E-S004 or 67E-T005)	WP020 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Door, Engine Bay - Center, Instl of	FIG 011 00
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Locating Blind Holes and Trim Lines	WP004 03
Gang Channel and Plate Nut Identification and Repair	WP004 05
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
Structural Hardware	NAVAIR 01-1A-8

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Record of Applicable Technical Directives

None

1 **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding the limits in table 1, must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.

8. **Scratches, Nicks, Gouges, or Corrosion.** Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A1 and A3, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Stop drill ends of crack in repair zone A1 or rout out crack in repair zone A3.

(2) In repair zones A1 and A3, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. Cracks across structure or land areas in aluminum sheet requires a depot engineering disposition.

c. In repair zone A3, repair cracks to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zones A1 and A3, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. Holes across structure or land areas in aluminum sheet requires a depot engineering disposition.

c. In repair zone A3, repair holes to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** Edge damage in aluminum sheet requires a depot engineering disposition.

12. Dents.

a. In repair zones A1 and A3, repair dents free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. Dents across structure or land areas in aluminum sheet requires a depot engineering disposition.

c. In repair zone A3, repair dents to aluminum formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zone A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. **Repair of 74A330638 Deflector.** Repair is required on aircraft when drain tube on engine vibrates against 74A330638 deflector, causing noticeable vibration in cockpit area.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Rivet, Solid	BRFZ5E()
Sealing Compound	MIL-S-83430, Class B-4

a. Open door (A1-F18AC-LMM-010).



Be careful not to enlarge holes when drilling out rivets. May cause structural failure.

b. Remove rivets in 74A330638 deflector.

c. Remove 74A330638 deflector.

d. Enlarge 0.50 diameter hole in skin to 0.75 diameter.

e. Touchup holes (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

2

f. Plug holes with BRFZ5E() rivets set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00). Length determined on installation.



Isopropyl Alcohol

1

g. Remove excess sealant with clean cheesecloth moistened with isopropyl alcohol.

h. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

i. Close door (A1-F18AC-LMM-010).

14. **Bracket, 74A331640-2012 Repair.** See figure 4. This repair is required when adjustment screw on right hand engine mounted bleed air pressure regulator scars the 74A331640 bracket.

Support Equipment Required

None

Materials Required

None

a. Remove section of bracket to dimensions shown.

b. Treat reworked aluminum surfaces of bracket, chemical conversion surface treatment (A1-F18AC-SRM-500, WP008 00).

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

15. **FASTENER HOLE REPAIR.** See figure 3. Repair procedure is for elongated holes, deep countersink, oversize hole, and/or deep counterbore for flare lock fasteners (milson fasteners) where door is 0.160 inch thick. Repair is intermediate maintenance.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Grommet Tool, Installation, 100° Countersink	NST-130-6

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Grommet	1938-6
Methyl Isobutyl Ketone	D1153
Primer, Epoxy	MIL-P-23377, Type 2, Class 1

a. Remove door 68.

b. Remove milson fastener at damaged hole.

c. Measure door thickness. Door must be 0.160 +0.010 -0.010 inch thick at damaged hole to do this repair.

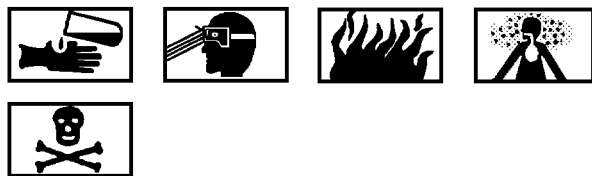
d. Enlarge hole to 0.468 +0.004 -0.000 inch diameter. Maintain fastener hole centerline.

e. Countersink hole 100° to 0.558 +0.010 -0.000 inch diameter.

f. Increase inside moldline counterbore depth to 0.058 +0.002 -0.000 inch.

g. Deburr as required.

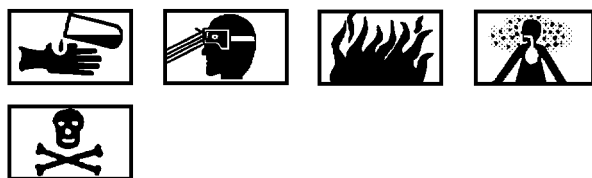
h. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).



Primer

10

i. Install 1938-6 grommet wet with epoxy primer or equivalent, using NST-130-6 installation tool.



Methyl Isobutyl Ketone

3

j. Remove excess primer with cheesecloth moistened with methyl isobutyl ketone.

k. Make sure final hole size after installation is 0.377 +0.005 -0.000 inch diameter.

l. Make sure grommet is tight in fastener hole and does not rotate. No splits or cracks in flare are allowed and counterskin edge shall be flush.

m. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).

n. Install milson fastener.

o. Reinstall door 68.

16. TEMPORARY REPAIRS.

17. Bushing Repair At Formers Y645.850 and Y657.350. This procedure temporarily repaired bushings located in Y645.850 and Y657.350 formers. Depot Level repair of the 74A331645, 74A331656-2001, and 74A331656-2003 bushings is now provided in (WP019 04).

18. REPLACEMENT.

19. DOOR 68. Door 68 is replaceable as depot maintenance (WP019 03) and requires drilling (A1-F18AC-SRM-200, WP004 03). Apply finish as required (A1-F18AC-SRM-500, WP036 00). See figure 5 for receptacles. For replacement rivets, attaching receptacles, not shown (A1-F18AC-SRM-200, WP004 05). For flare lock fasteners (A1-F18AC-SRM-440, FIG 011 00). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8). For form in place sealing (A1-F18AC-SRM-500, WP010 00).

20. DOOR 131 AND 134. See figure 6 for receptacle. For replacement rivets, attaching receptacles, not shown (A1-F18AC-SRM-200, WP004 05). Doors 131 and 134 are replaceable on 161353 THRU 161366. Trimming and drilling is required. For locating blind holes and trim lines (A1-F18AC-SRM-200, WP004 03). Door 131 and 134 are interchangeable on 161367 THRU 161741. For flare lock fasteners (A1-F18AC-SRM-440, FIG 011 00). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8).

21. AS-2595/APN-194(V) ANTENNA. See figure 7 for attaching hardware. For replacement rivets, attaching plate nuts, not shown (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-600-300, WP020 00).

22. DOOR 68 REMOVAL AND INSTALLATION. See figure 1, detail B.



Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Cotter Pin	MS24665-153

23. Removal.

- Open door (A1-F18AC-LMM-010).
- Disconnect antenna lead.
- Remove pins (30) or cotter pins from hinges (27, 32) and (28, 31).
- Support door assembly.
- Remove hinge pins (29).
- Remove door assembly.

24. Installation.

- Support door assembly.
- Align door assembly hinge halves (31, 32) with fuselage hinge halves (27, 28) and install hinge pins (29).
- Install cotter pins as hinge pin retainers in place of pins (30).
- Connect antenna lead.
- Close door (A1-F18AC-LMM-010).

25. LOCKSET ASSEMBLY REPLACEMENT. See figure 8.

26. Removal.

- Open door (A1-F18AC-LMM-010).

Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

- Remove rivets attaching retaining clip (4) to door structure.

- Remove clevis pins (2), cotter pins, and washers at the drive cam (9) end of the connecting links (1).

- Push hinge pins (7) into the body (11) until they bottom.

- Retract threaded bushing (5) on forward end of body (11) from bushing in frame and seat against body (11).

- Remove aft end of body (11) until clear of aft frame bushing.

- Remove assembly.



Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

- Remove rivets attaching 1960-6-12-0 receptacle (10) to antirotation clip (8). Retain receptacle for reinstallation.

27. Installation.

- Fully retract threaded bushing (5).

- Remove clevis pins (2), cotter pins, and washers at drive cam (9) end of connecting links (1).

- Push hinge pins (7) into body (11) until they bottom.

- Insert aft end of body (11) into the aft frame bushing until firmly seated.



To prevent damage to structure, do not spread the Y645.850 and Y657.350 frames by continued rotation of threaded bushing (5) after it has bottomed in the forward recessed bushing. The body (11) shall be free of end play and still be able to rotate by hand pressure only.

e. Rotate threaded bushing (5) until it nests in the recess of the forward frame bushing.

f. Reinstall clevis pins (2), cotter pins, and washers at the drive cam (9) end of the connecting links (1).

NOTE

Right side driveshafts are rotated in the opposite direction.

g. Rotate driveshaft (3), of outboard lockset in a clockwise direction and inboard lockset in a counter-clockwise direction, using 7/32 inch hex recess on end of drive shaft (3), until it is seated in the 10 degree over center position. See detail A.

NOTE

Hinge pin (7) and adjustments must be made in 180 degree increments.

h. Rotate hinge pins (7), using screwdriver slots in hinge pin (6), until a projection of 0.150 +0.018 -0.000 is achieved. See detail A.

i. Mate drill retaining clip (4), apply finish system (A1-F18AC-SRM-500, WP036 00).

j. Rivet retaining clip (4) to door structure with applicable rivets. See details B and D.

k. With door 131 or 134 in position on door 68, mate drill antirotation clip (8) with 0.377 +0.005 -0.000 diameter hole.

l. Position 1960-6-12-0 receptacle (10) on inner side of antirotation clip (8).

m. Mate drill and countersink, hole diameter 0.128 +0.006 -0.000, 1960-6-12-0 receptacle (10) to antirotation clip (8). Apply finish system (A1-F18AC-SRM-500, WP036 00).

n. Install receptacle with two MS20426AD4 rivets, flush in outer surface of antirotation clip (8).

o. Remove foreign objects from area.

p. Refinish area (A1-F18AC-SRM-500, WP036 00).

q. Close door (A1-F18AC-LMM-010).

28. **A2681-6, A2681-8 STRUT ASSEMBLY RE-PLACEMENT.** See figure 9.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Collar (8)	HL570-5MC
Collar (22)	HL570-6MC
Pin (22)	HL11V6-3
Pin (4)	HL610-5-3
Pin (3)	HL610-5-4
Pin (4)	HL610-5-5
Rivet (1)	MS20470DD6-()
Rivet (1)	NAS1398C5A3
Rivet (22)	NAS1398C6A3
Sealing Compound	MIL-S-83430, Class B-4

29. Removal.

a. Open door (A1-F18AC-LMM-010).



Be careful not to enlarge holes when drilling out rivets. May cause structural failure.

b. Remove rivets (1, 2, 3) attaching 74A330711-2083 spacer and 74A330711-2085 spacer to structure.

c. Remove pins (4, 5, 6, 7) attaching strut assembly, 74A330710-2067 shim, and 74A331620-2017 bracket to structure.

d. Remove sealant from holes and mating surfaces.

e. Remove foreign objects.

30. Installation.

a. Position strut assembly with pivot axis in the forward position and strut open through hole in 74A330622 skin.

b. Position 74A331620-2017 bracket and 74A330710-2067 shim.

NOTE

Close and open strut to ensure proper operation before mate drilling holes.

c. Mate drill and hold in position with temporary fasteners.

d. Position 74A330711-2083 spacer and 74A330711-2085 spacer.



When mate drilling strut assembly, caution should be taken not to damage working mechanism of strut.

e. Mate drill holes through strut assembly.

f. Disassemble all parts and deburr all holes. Apply finish system (A1-F18AC-SRM-500, WP036 00).

g. Clean area of foreign objects.



Sealing Compound



2

h. Fay seal mating surfaces (A1-F18AC-SRM-200, WP011 00).

i. Install strut assembly, 74A331620-2017 bracket, and 74A330710-2067 shim. Wet set pins (4, 5, 6, 7) (A1-F18AC-SRM-200, WP011 00).

j. Refinish repair area (A1-F18AC-SRM-500, WP036 00).

k. Install 74A330711-2083 spacer and 74A330711-2085 spacer. Wet set rivets (1, 2, 3) (A1-F18AC-SRM-200, WP011 00).

l. Refinish repair area (A1-F18AC-SRM-500, WP036 00).

m. Close door (A1-F18AC-LMM-010).

31. WEAR TOLERANCES. See figure 10.

32. Wear tolerances, allowable wear, if not indicated, requires a depot engineering disposition.

33. The following damage criteria shall apply when signs of rotating or loose bushings are found.

a. When aft fuselage former Y645.85 and Y657.35 bushings (74A331645) are found misaligned, rotated, or loose inside housing lugs, do substeps below.

(1) If bushing is loose, can be moved by hand forward and aft and rotated inside the fuselage former lug bore and the door mechanism does not latch or latches with difficulty, depot engineering disposition required. If door latches with little or no difficulty, depot engineering required within 50 flight hours or if latching becomes difficult.

(2) If bushing is misaligned but not loose, and the latch mechanism engages with slight difficulty, repair within 200 flight hours or when latching is difficult.

NOTE

Damage to bushing requires that all 3 attach bushings be replaced and line reamed.

b. When center engine bay door lock pin bushings (74A331656-2001) are found rotating or loose in housing lugs, do substeps below.

(1) Back out the lockset assembly adjustable threaded bushing and retract latch mechanism away from Y645.85 and Y657.35 bushings (74A331645).

(2) If bushing rotates by hand but does not move against lug bore, depot engineering disposition required. Readjust latch mechanism adjustable nut. Aircraft is authorized 200 flight hours before depot repair is required.

(3) If bushing moves against the lug bore, remove lockset assembly and remove bushings.

(4) Measure the lug bore diameter in four directions.

(5) If the largest measured diameter is 0.8250 or greater, depot engineering disposition required.

(6) If the largest measured diameter is less than 0.8250, reinstall bushings and lockset assembly. Aircraft is authorized 50 flight hours before depot repair is required.

NOTE

Damage to bushing requires that all 3 attach bushings be replaced and line reamed.

c. When center engine bay door lock pin staked bushings (74A331656-2003) are found rotating or loose in housing lugs, do substeps below.

(1) If bushing rotates by hand but does not move against lug bore, depot engineering disposition required. Aircraft is authorized 200 flight hours before depot repair is required.

(2) If bushing moves against lug bore, push bushing toward adjacent former lug.

(a) If bushing does not become dislodged from the lug, depot engineering disposition required. Aircraft is authorized 50 flight hours before depot repair is required.

(b) If bushing becomes dislodged from the lug, depot engineering disposition required.

(c) Measure the lug bore diameter in four directions.

(d) If the largest measured diameter is 0.8250 or greater, depot engineering disposition required.

(e) If the largest measured diameter is less than 0.8250, reinstall bushings wet with MIL-S-83430 sealing compound (A1-F18AC-SRM-200, WP011 00). Allow sealing compound to dry before latching door. Aircraft is authorized 50 flight hours before depot repair is required.

Table 1. Negligible Damage Limits


Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Former Zone B3 Zone B3	0.160 0.127	0.0006 0.0006	0.0006 0.0006	100% 100%	 0.063	NA NA
Fig 1 (2)	Stringer Zone B3	0.078	0.0006	0.0006	100%	0.039	NA
Fig 1 (4)	Stringer Zone B3	0.078	0.0006	0.0006	100%	0.039	NA
Fig 1 (6)	Stringer Zone B3	0.090	0.0006	0.0006	100%	0.045	NA
Fig 1 (7)	Stringer Zone B3	0.090	0.0006	0.0006	100%	0.045	NA

Table 1. Negligible Damage Limits (Continued)
















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (9)	Stringer Zone B3	0.090	0.0006	0.0006	100%	0.045	NA
Fig 1 (11)	Former Zone B3	0.120	0.0006	0.0006	100%		NA
	Zone B3	0.160	0.0006	0.0006	100%		NA
	Zone C3	0.140	0.0006	0.0006	100%		NA
	Zone C3	0.250	0.0006	0.0006	100%		NA
	Zone B3	0.080	0.0006	0.0006	100%	0.040	NA
	Zone C3	0.950	0.0006	0.0006	100%		NA
Fig 1 (12)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
	Zone A3	0.050	0.002	0.002	100%	0.025	NA
Fig 1 (13)	Former Zone B3	0.120	0.0006	0.0006	100%		NA
	Zone B3	0.110	0.0006	0.0006	100%		NA
	Zone B3	0.160	0.0006	0.0006	100%		NA
	Zone B3	0.250	0.0006	0.0006	100%		NA
	Zone B3	0.125	0.0006	0.0006	100%	0.062	NA
	Zone B3	0.080	0.0006	0.0006	100%	0.040	NA
	Zone B3	0.190	0.0006	0.0006	100%	0.095	NA
	Zone B3	0.100	0.0006	0.0006	100%	0.050	NA
	Zone C3	0.250	0.0006	0.0006	100%		NA
	Zone C3	0.125	0.0006	0.0006	100%		NA
	Zone C3	0.190	0.0006	0.0006	100%		NA
Fig 1 (15)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
	Zone A3	0.050	0.002	0.002	100%	0.025	NA
Fig 1 (16)	Former Zone B3	0.160	0.0006	0.0006	100%		NA
	Zone B3	0.127	0.0006	0.0006	100%	0.064	NA
Fig 1 (17)	Former Zone B3	0.071	0.0006	0.0006	100%	0.035	NA
Fig 1 (18)	Former Zone B3	0.071	0.0006	0.0006	100%	0.035	NA
Fig 1 (19)	Former Zone B3	0.071	0.0006	0.0006	100%	0.035	NA
Fig 1 (20)	Former Zone B3	0.071	0.0006	0.0006	100%	0.035	NA

Table 1. Negligible Damage Limits (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (21)	Stringer Zone B3	0.078	0.0006	0.0006	100%	0.039	NA

Table 1. Negligible Damage Limits (Continued)

























Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (22)	Stringer Zone B3	0.078	0.0006	0.0006	100%	0.039	NA
Fig 1 (25)	Cap Zone B3	0.160	0.0006	0.0006	100%		NA
	Zone B3	0.110	0.0006	0.0006	100%		NA
Fig 1 (26)	Support Zone B3	0.071	0.0006	0.0006	100%	0.035	NA
Fig 1 (27)	Skin Zone A3	0.040	0.002	0.002	100%	0.020	
	Zone A3	0.050	0.002	0.002	100%	0.025	
	Zone A3	0.060	0.002	0.002	100%	0.030	
	Zone A3	0.070	0.002	0.002	100%	0.035	
	Zone A3	0.100	0.002	0.002	100%		10%
	Zone B3	0.040	0.0006	0.0006	100%	0.020	
	Zone B3	0.050	0.0006	0.0006	100%	0.025	
	Zone B3	0.060	0.0006	0.0006	100%	0.030	
	Zone B3	0.070	0.0006	0.0006	100%	0.035	
	Zone B3	0.080	0.0006	0.0006	100%		10%
	Zone B3	0.125	0.0006	0.0006	100%		10%
	Zone B3	0.100	0.0006	0.0006	100%		10%
	Fig 1 (37)	Door 134 Zone A1	0.040	0.002	0.002	100%	
Zone A1		0.030	0.001	0.001	100%		
Zone A1		0.071	0.002	0.002	100%	0.018	
Fig 1 (38)	Door 131 Zone A1	0.040	0.002	0.002	100%		
	Zone A1	0.030	0.001	0.001	100%		
	Zone A1	0.071	0.002	0.002	100%	0.018	
NOTE  None allowed.							

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Former Zone B3 Zone B3	0.167	0.032	0.032	25%	0.032	25%
		0.127	0.025	0.025	25%	0.025	25%
Fig 1 (2)	Stringer Zone B3	0.078	0.016	0.016	25%	0.016	25%
Fig 1 (4)	Stringer Zone B3	0.078	0.016	0.016	25%	0.016	25%
Fig 1 (6)	Stringer Zone B3	0.090	0.018	0.018	60%	0.018	60%
Fig 1 (7)	Stringer Zone B3	0.090	0.018	0.018	60%	0.018	60%
Fig 1 (9)	Stringer Zone B3	0.090	0.018	0.018	60%	0.018	60%
Fig 1 (11)	Former Zone B3	0.120	0.024	0.024	30%	0.024	30%
	Zone B3	0.160	0.032	0.032	30%	0.032	30%
	Zone C3	0.140	0.028	0.028	30%	0.028	30%
	Zone C3	0.250	0.013	0.013	30%	0.013	30%
	Zone B3	0.080	0.016	0.016	40%	0.016	40%
	Zone C3	0.950	0.050	0.050	20%	0.050	20%
Fig 1 (12)	Intercostal Zone A3	0.071	0.014	0.014	50%	0.014	50%
	Zone A3	0.050	0.010	0.010	50%	0.010	50%
Fig 1 (13)	Former Zone B3	0.110	0.022	0.022	30%	0.022	30%
	Zone B3	0.160	0.032	0.032	30%	0.032	30%
	Zone B3	0.120	0.024	0.024	30%	0.024	30%
	Zone B3	0.250	0.025	0.025	30%	0.025	30%
	Zone B3	0.125	0.025	0.025	20%	0.025	20%
	Zone B3	0.080	0.016	0.016	40%	0.016	40%
	Zone B3	0.190	0.038	0.038	20%	0.038	20%
	Zone B3	0.100	0.020	0.020	40%	0.020	40%
	Zone C3	0.250	0.013	0.013	20%	0.013	20%
	Zone C3	0.125	0.006	0.006	20%	0.006	20%
	Zone C3	0.190	0.010	0.010	20%	0.010	20%
Fig 1 (15)	Intercostal Zone A3	0.071	0.014	0.014	50%	0.014	50%
	Zone A3	0.050	0.010	0.010	50%	0.010	50%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (16)	Former Zone B3	0.160	0.032	0.032	25%	0.032	25%
	Zone B3	0.127	0.025	0.025	25%	0.025	25%
Fig 1 (17)	Former Zone B3	0.071	0.014	0.014	40%	0.014	40%
Fig 1 (18)	Former Zone B3	0.071	0.014	0.014	40%	0.014	40%
Fig 1 (19)	Former Zone B3	0.071	0.014	0.014	40%	0.014	40%
Fig 1 (20)	Former Zone B3	0.071	0.014	0.014	40%	0.014	40%
Fig 1 (21)	Stringer Zone B3	0.078	0.016	0.016	25%	0.016	25%
Fig 1 (22)	Stringer Zone B3	0.078	0.016	0.016	25%	0.016	25%
Fig 1 (25)	Cap Zone B3	0.160	0.032	0.032	25%	0.032	25%
	Zone B3	0.110	0.022	0.022	25%	0.022	25%
Fig 1 (26)	Support Zone B3	0.071	0.014	0.014	50%	0.014	50%
Fig 1 (27)	Skin						
	Zone A3	0.040	0.008	0.008	25%	0.008	25%
	Zone A3	0.050	0.010	0.010	25%	0.010	25%
	Zone A3	0.060	0.012	0.012	25%	0.012	25%
	Zone A3	0.070	0.014	0.014	25%	0.014	25%
	Zone A3	0.100	0.020	0.020	25%	0.020	25%
	Zone B3	0.040	0.008	0.008	25%	0.008	25%
	Zone B3	0.050	0.010	0.010	25%	0.010	25%
	Zone B3	0.060	0.012	0.012	25%	0.012	25%
	Zone B3	0.070	0.014	0.014	25%	0.014	25%
	Zone B3	0.080	0.016	0.016	25%	0.016	25%
	Zone B3	0.125	0.025	0.025	25%	0.025	25%
	Zone B3	0.100	0.020	0.020	25%	0.020	25%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (37)	Door 134						
	Zone A1	0.040	0.008	0.008	100%	0.008	100%
	Zone A1	0.030	0.006	0.006	100%	0.006	100%
	Zone A1	0.071	0.014	0.014	100%	0.014	100%
Fig 1 (38)	Door 134						
	Zone A1	0.040	0.008	0.008	100%	0.008	100%
	Zone A1	0.030	0.006	0.006	100%	0.006	100%
	Zone A1	0.071	0.014	0.014	100%	0.014	100%

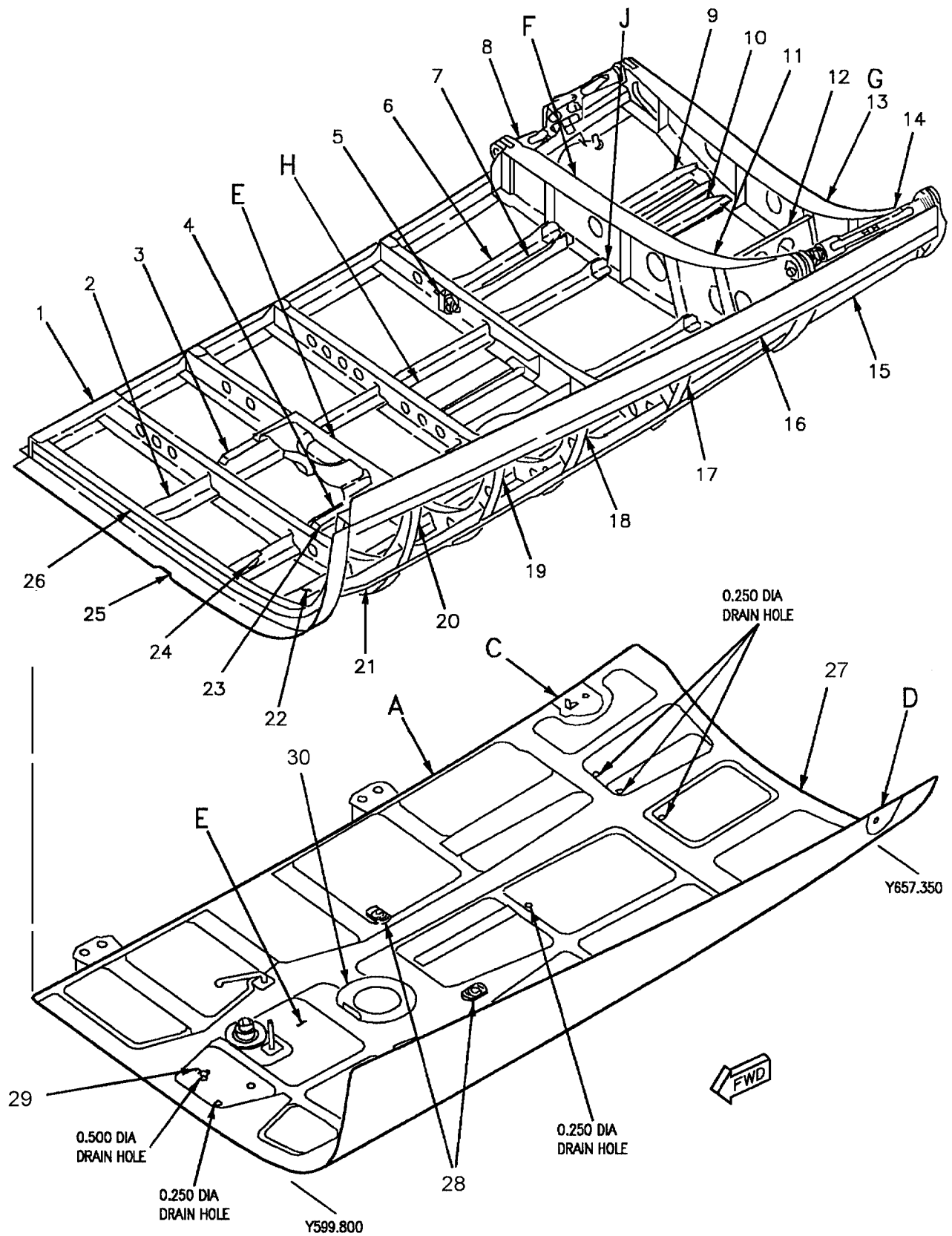
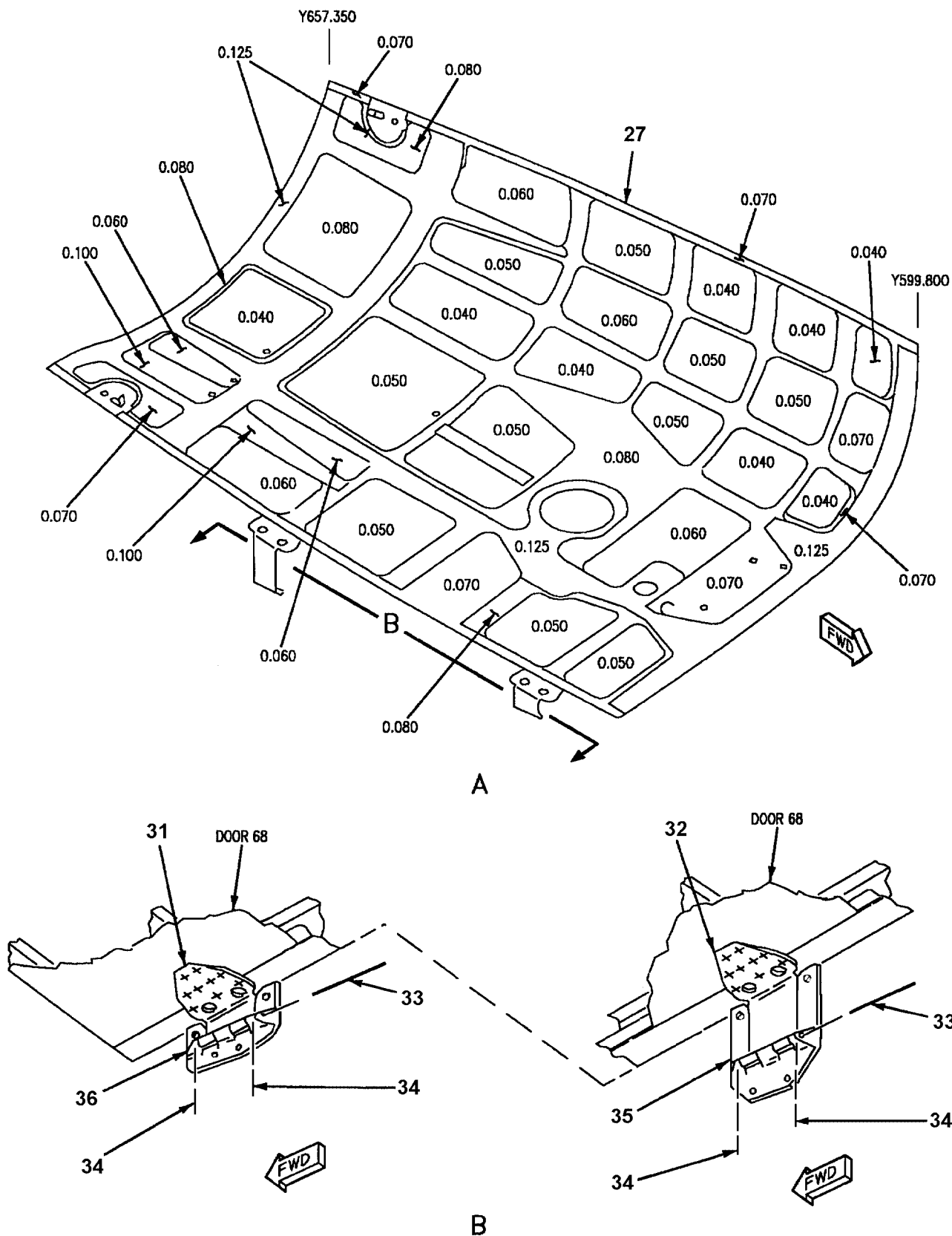
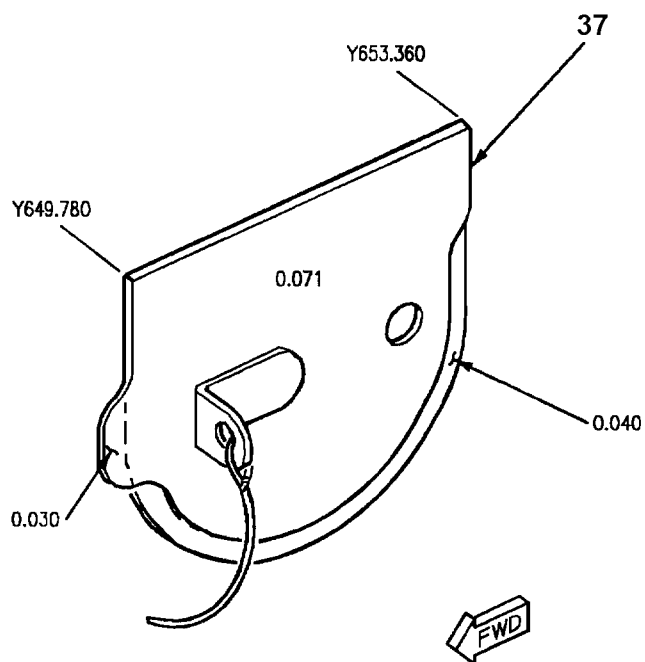


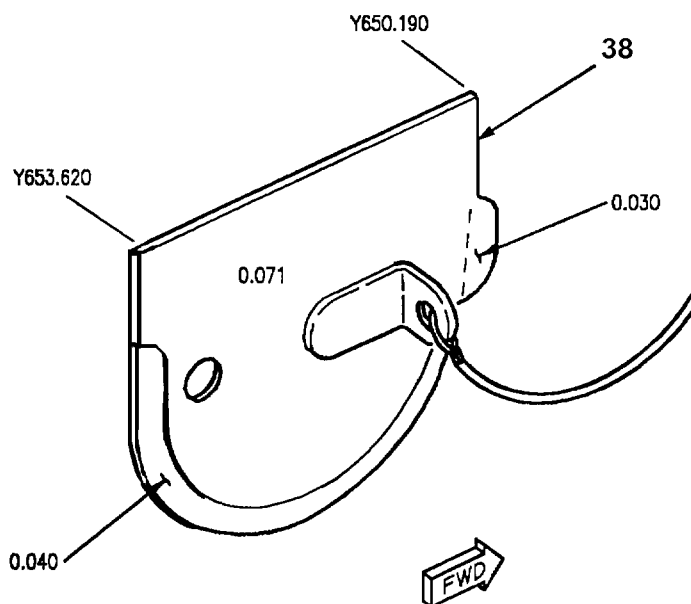
Figure 1. Material Index (Sheet 1)





DOOR 134

C



DOOR 131

D

Figure 1. Material Index (Sheet 3)

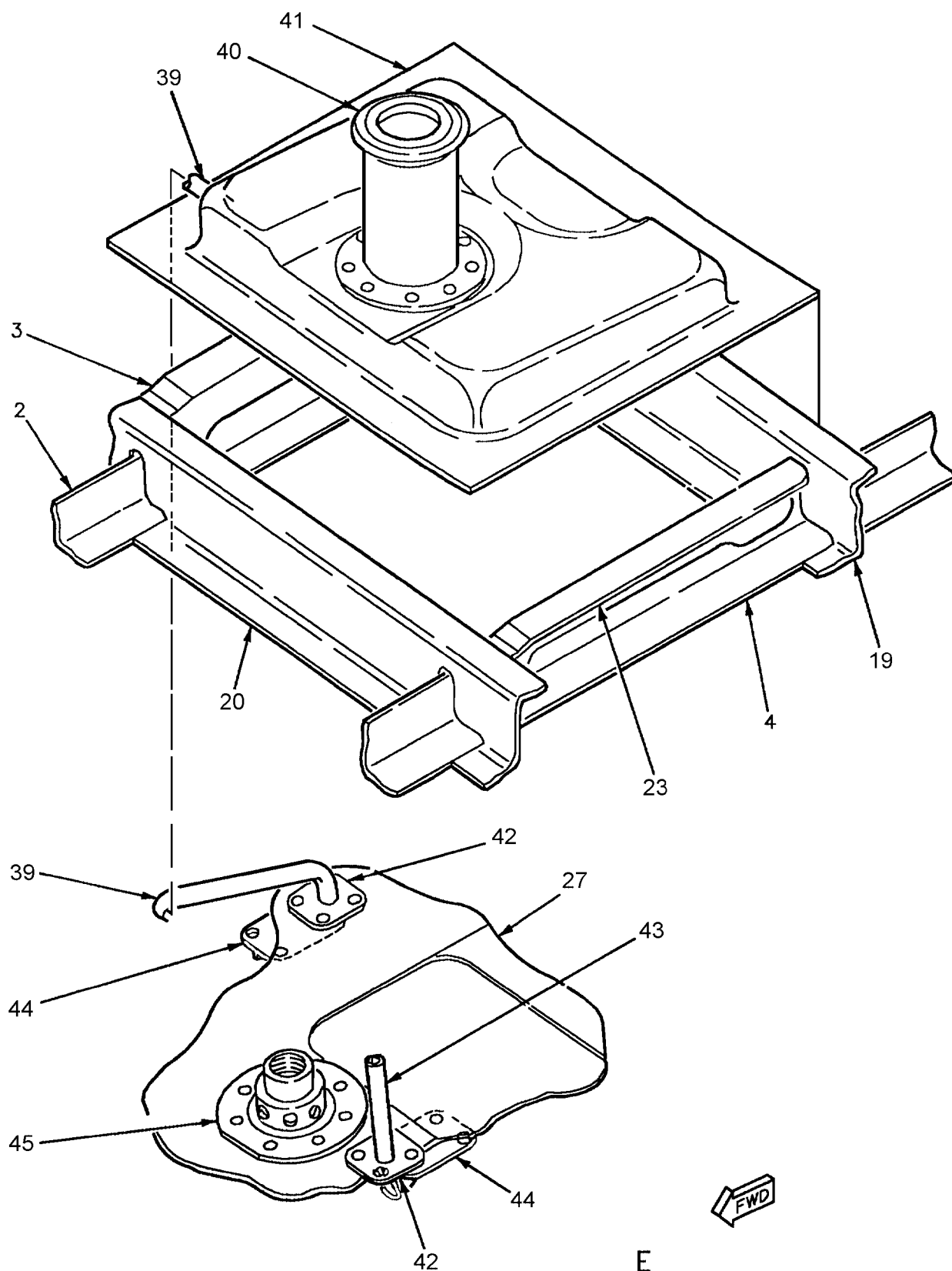


Figure 1. Material Index (Sheet 4)

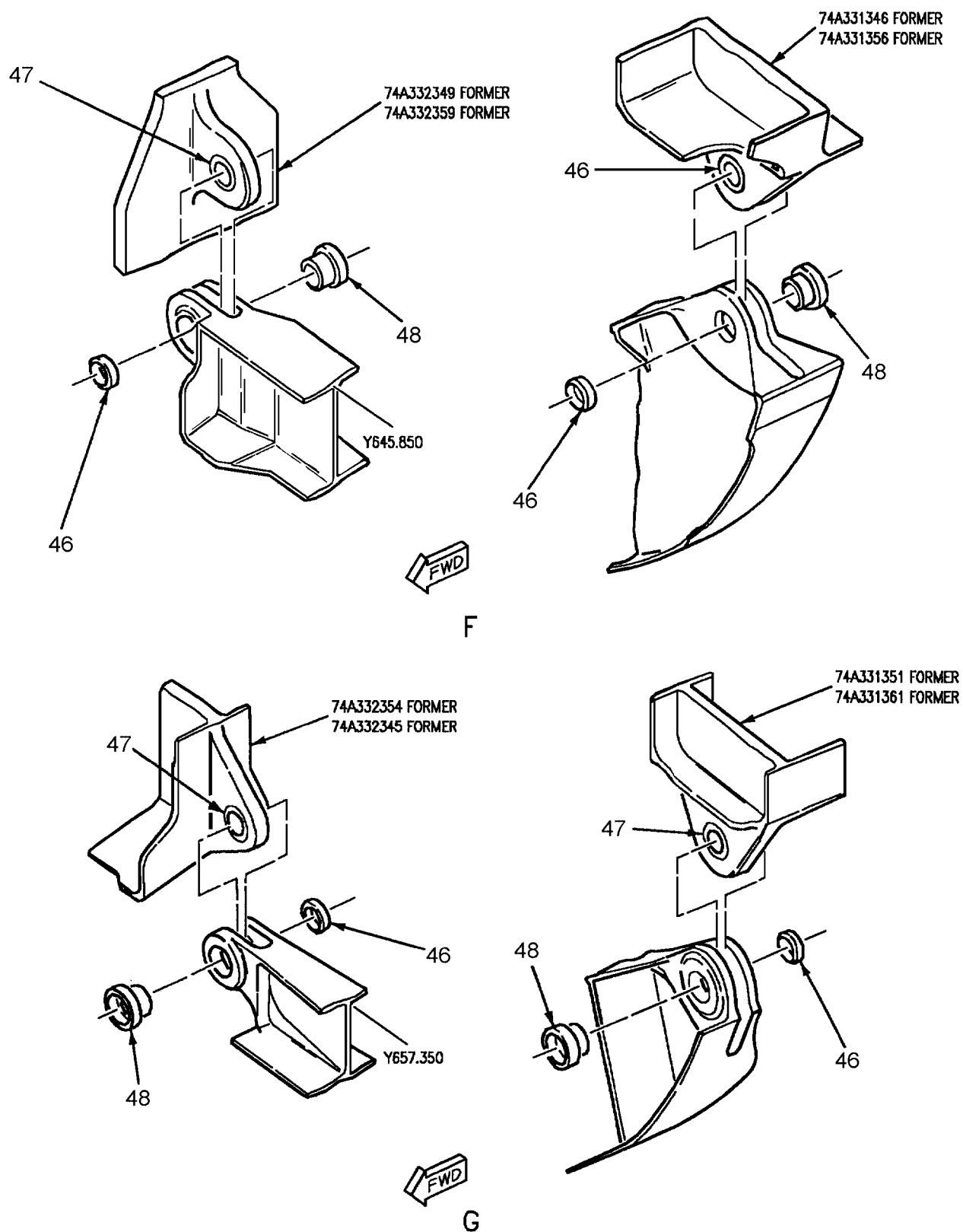


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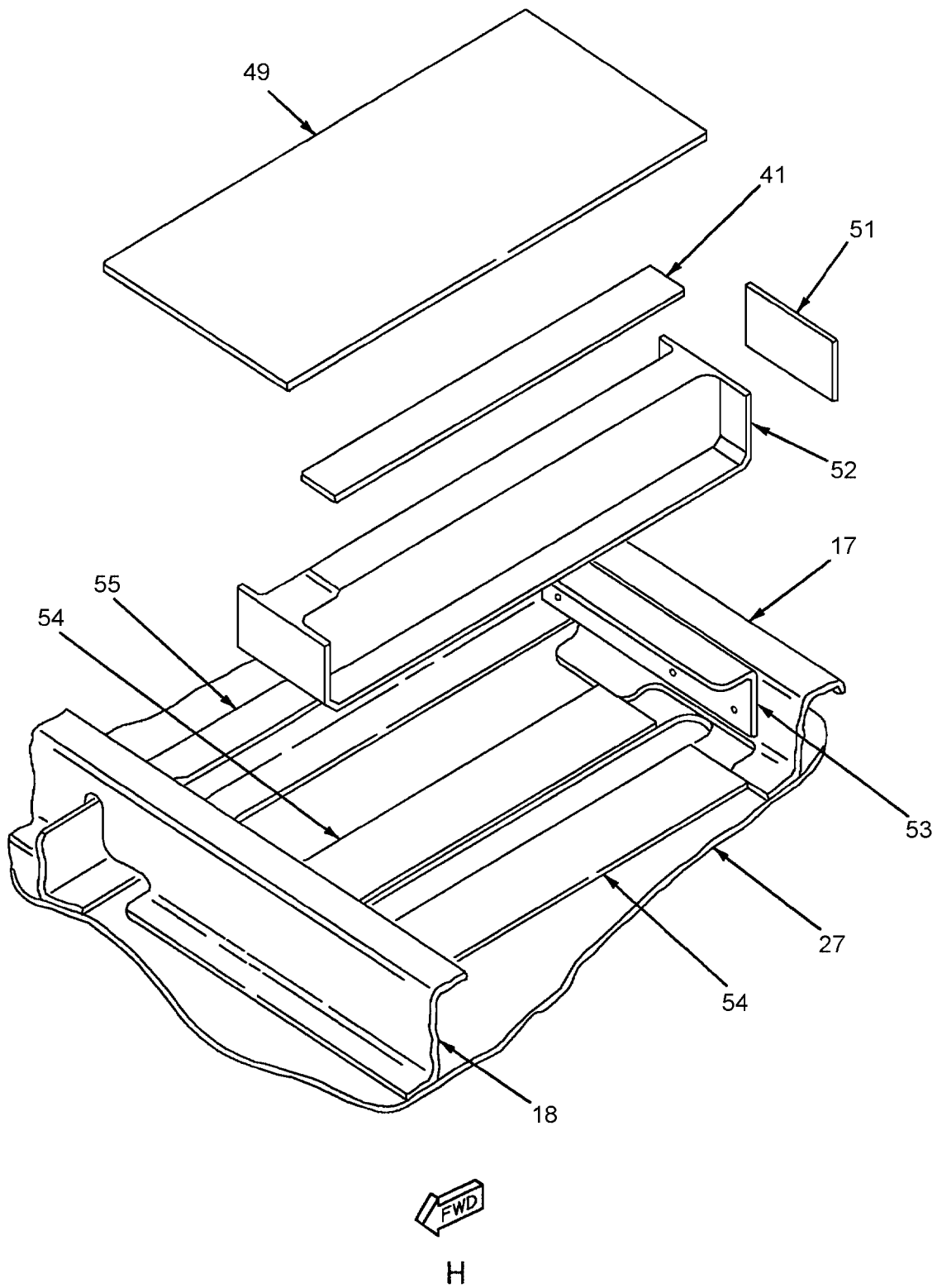


Figure 1. Material Index (Sheet 6)

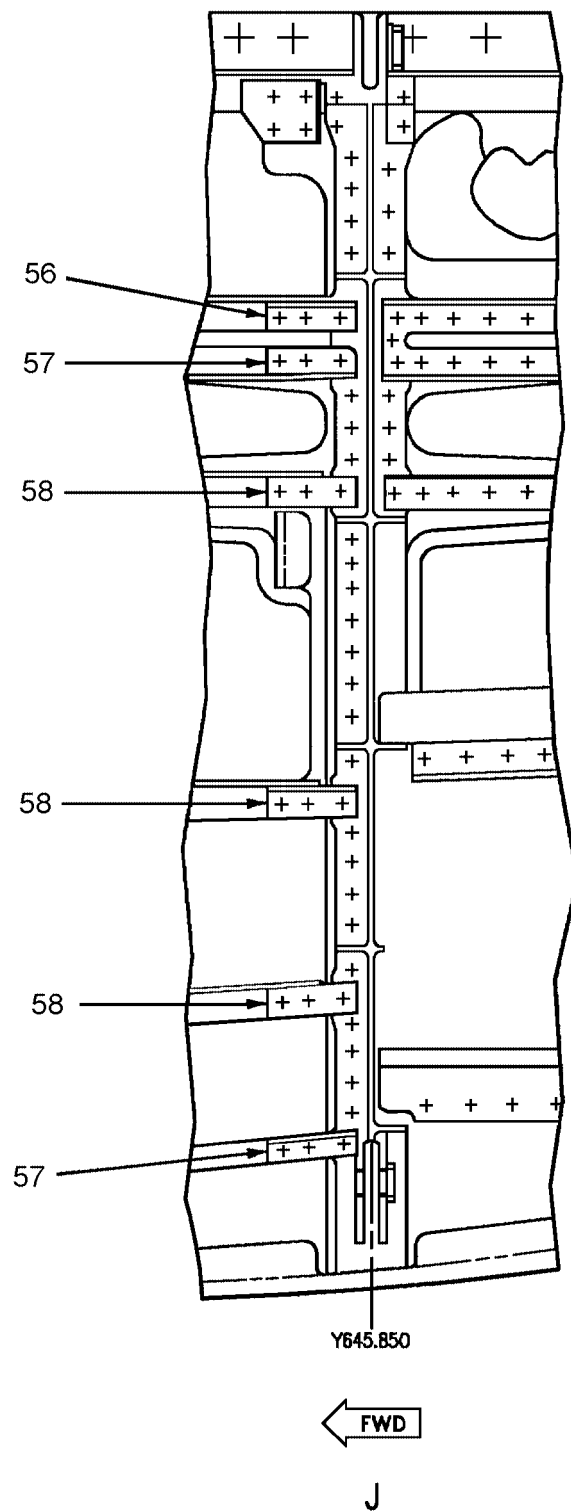


Figure 1. Material Index (Sheet 7)




Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Former 74A331630-2003, -2004	1MA10388D01 Extr	7075-T76 Al Aly
2		Stringer 74A331632-2017, -2018	1MA100D01-10360 Extr	7075-T76 Al Aly
3		Intercostal 74A331634-2003, -2004	0.071 Sheet	7075-T62 Alclad
4		Stringer 74A331633-2011, -2012	1MA100D01-10360 Extr	7075-T76 Al Aly
5		Support Assembly 74A501333-1001	-	-
6		Stringer 74A331622-2025, -2026	0.090 Sheet	7075-T76 Alclad
7		Stringer 74A331622-2019, -2020	0.090 Sheet	7075-T76 Alclad
8		Lockset Assembly 74J338001-103, 104 74J338001-107, -108 74J338001-111, -112	-	-
9		Stringer 74A331622-2017, -2018	0.090 Sheet	7075-T76 Alclad
10		Stringer 74A331632-2013, -2014	1MA100D01-10360 Extr	7075-T76 Al Aly
11		Former 74A331638-2009, -2010	Die Forging	6Al-4V Ti Anl
12		Intercostal 74A330642-2007, -2008	0.071 Sheet	7075-T62 Al Aly
13		Former 74A331639-2009, -2010 74A331679-9003, -9004	Die Forging Hand Forging	6Al-4V Ti Anl 7049-T7352 Al Aly
14		Lockset Assembly 74J338001-101, -102 74J338001-105, -106 74J338001-109, -110	-	-
15		Intercostal 74A330642-2005, -2006	0.071 Sheet	7075-T62 Al Aly
16		Former 74A331631-2003, -2004	1MA10388D01 Extr	7075-T76 Al Aly

Figure 1. Material Index (Sheet 8)







Idx No.	Eft	Nomenclature and Part No.	Description	Material
17		Former 74A331629-2003, -2004 74A331629-9001, -2004	0.071 Sheet	7075-T62 Alclad
18		Former 74A331624-2003, -2002	0.071 Sheet	7075-T62 Alclad
19		Former 74A331628-2003, -2004	0.071 Sheet	7075-T62 Alclad
20		Former 74A331627-2005, -2006	0.071 Sheet	7075-T62 Alclad
21		Stringer 74A331637-2007, -2008	1MA180D01-10155 Extr	7075-T76 Al Aly
22		Stringer 74A331636-2007, -2008	1MA100D01-10360 Extr	7075-T76 Al Aly
23		Intercostal 74A331634-2001, -2002	0.071 Sheet	7075-T62 Alclad
24		Bracket 74A331640-2011, -2012	1MA100D01-10360 Extr	7075-T76 Al Aly
25		Cap 74A331626-2001, -2002	1MA160D01-10470 Extr	7075-T76 Al Aly
26		Support 74A331626-2007, -2008 74A331626-2011, -2012	0.071 Sheet	7075-T62 Al Aly
27		Skin 74A330622-2011, -2012 74A330622-2015, -2016	0.125 Sheet	7075-T76 Alclad
28		Receiver RI2681-2	Assembly	Al Aly
29		Deflector 74A330638-2001	Machined Bar	7075-T 73511 Al Aly
30		Plate 74A331652-2001, -2003	0.063 Sheet	7075-T62 Alclad
31		Hinge Half  74A331649-2003, -2004	IMT10057A01	6Al-4V Ti Anl
32		Hinge Half  74A331650-2001, -2002	IMT10056A01	6Al-4V Ti Anl
33		Hinge Pin 74A330620-2001	MS20253-4-366 0.179 Dia Wire	Cres

Figure 1. Material Index (Sheet 9)





Idx No.	Eft	Nomenclature and Part No.	Description	Material
34		Pin MS16562-193	Steel	Cres
35		Hinge Half  14 74A331651-2001, -2002	Plate	6Al-4V Ti Anl
36		Hinge Half  14 74A331651-2003, -2004	Plate	6Al-4V Ti Anl
37		Skin (Door 134) 74A331655-2001, -2002	 3 Sheet	7075-T6 Alclad
38		Skin (Door 131) 74A331655-2003, -2004	 3 Sheet	7075-T6 Alclad
39		Tube 74A500602-2001, -2002	0.375 Dia	6061-T6 Al Aly
40		Bellows Assembly 75286-3	1.89 Dia	321 Cres
41		Cover 74A500601-2001, -2002	0.050 Sheet	6061-T62 Al Aly
42		Support 74A500605-2001	0.040 Sheet	6061-T6 Al Aly
43		Tube 74A500604-2001	0.375 Dia	6061-T6 Al Aly
44		Guard 74A500606-2001	IMA160D06-1003 Extr	7075-T76511 Al Aly
45		Adapter 74A500603-2001	3.25 Bar	6061-T651 Al Aly
46		Bushing 74A331656-2003	1.00 Bar	CA172 Beryllium Copper
47		Bushing 74A331645-2001	1.125 Bar	CA172 Beryllium Copper
48		Bushing 74A331656-2001	1.125 Bar	CA172 Beryllium Copper
49 L		Spacer 74A330711-2083	0.071 Sheet	7075-T6 Alclad
50 L		Spacer 74A330711-2085	0.071 Sheet	7075-T6 Alclad
51 L		Shim, Laminated 74A330710-2067	0.032 Laminate	5052 Al Aly

Figure 1. Material Index (Sheet 10)

















Idx No.	Eft	Nomenclature and Part No.	Description	Material
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53 L		Bracket 74A331620-2017	0.071 Sheet	7075-T62 Alclad
54 L		Spacer 74A330711-2081	0.040 Sheet	7075-T6 Alclad
55 L		Bracket 74A331620-2019	0.071 Sheet	7075-T62 Alclad
56		Stringer 74A331622-2021, -2022	0.090 Sheet	7075-T76 Alclad
57		Stringer 74A331622-2024, -2023	0.090 Sheet	7075-T76 Alclad
58		Stringer 74A331622-2023, -2024	0.090 Sheet	7075-T 76 Alclad
<p style="text-align: center;">LEGEND</p> <p> 161353 THRU 161521.  161522 THRU 161741.  0.071 stock size, machined to dimensions shown.  161353 THRU 161527.  161528 THRU 161741.  161353 THRU 161519.  161520 THRU 161741.  161353 THRU 161705, 161707.  161706, 161708 THRU 161741.  161353 THRU 161361.  161362 THRU 161522.  161523 THRU 161741.  For fasteners see skin 74A330622 replacement WP019 03.  For fasteners see removal and installation of 74A332520 arresting hook support WP006 01.</p>				

Figure 1. Material Index (Sheet 11)

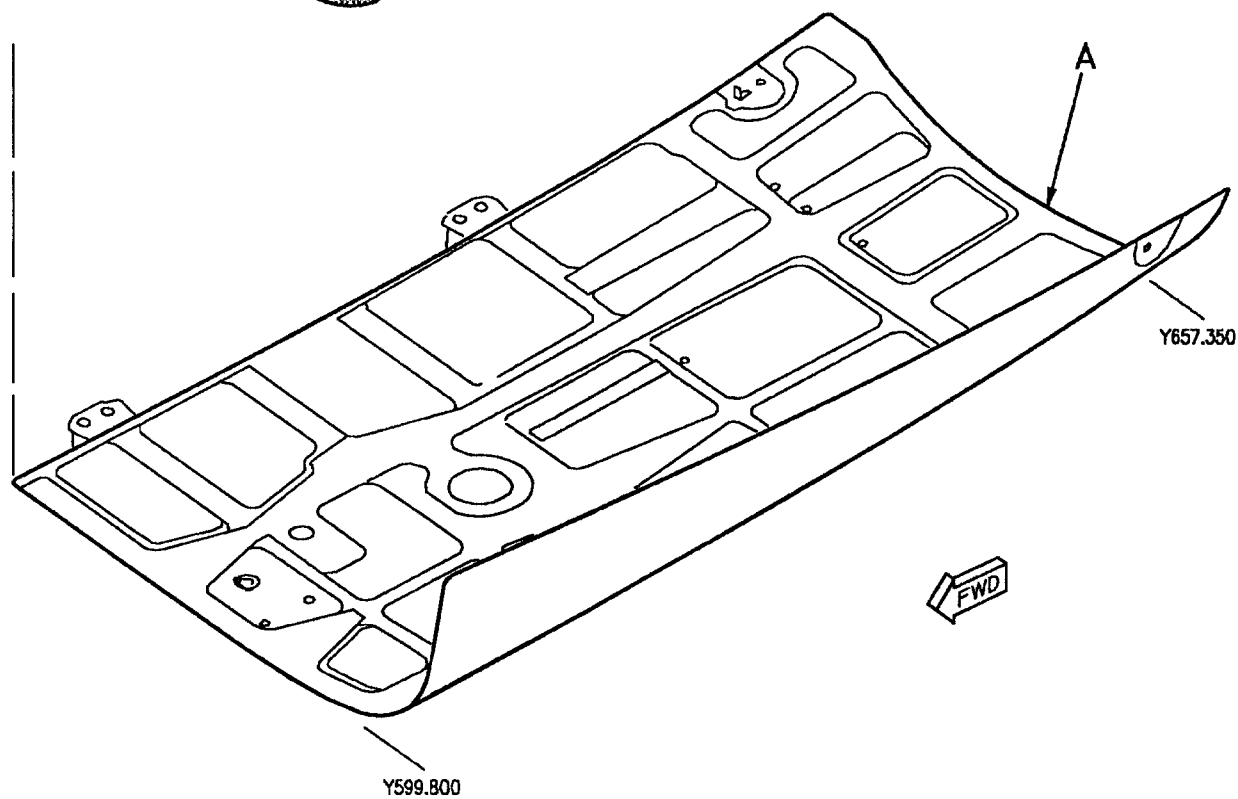
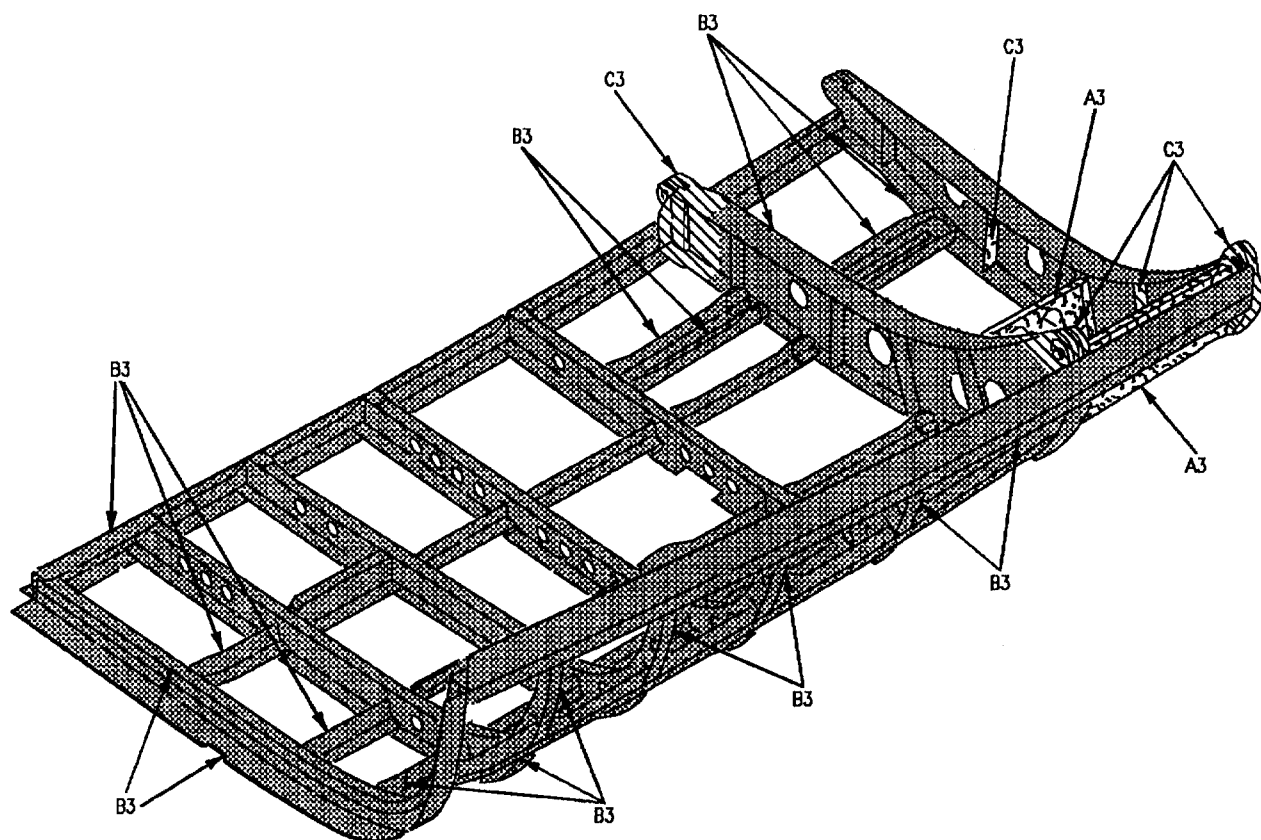


Figure 2. Repair Zones (Sheet 1)

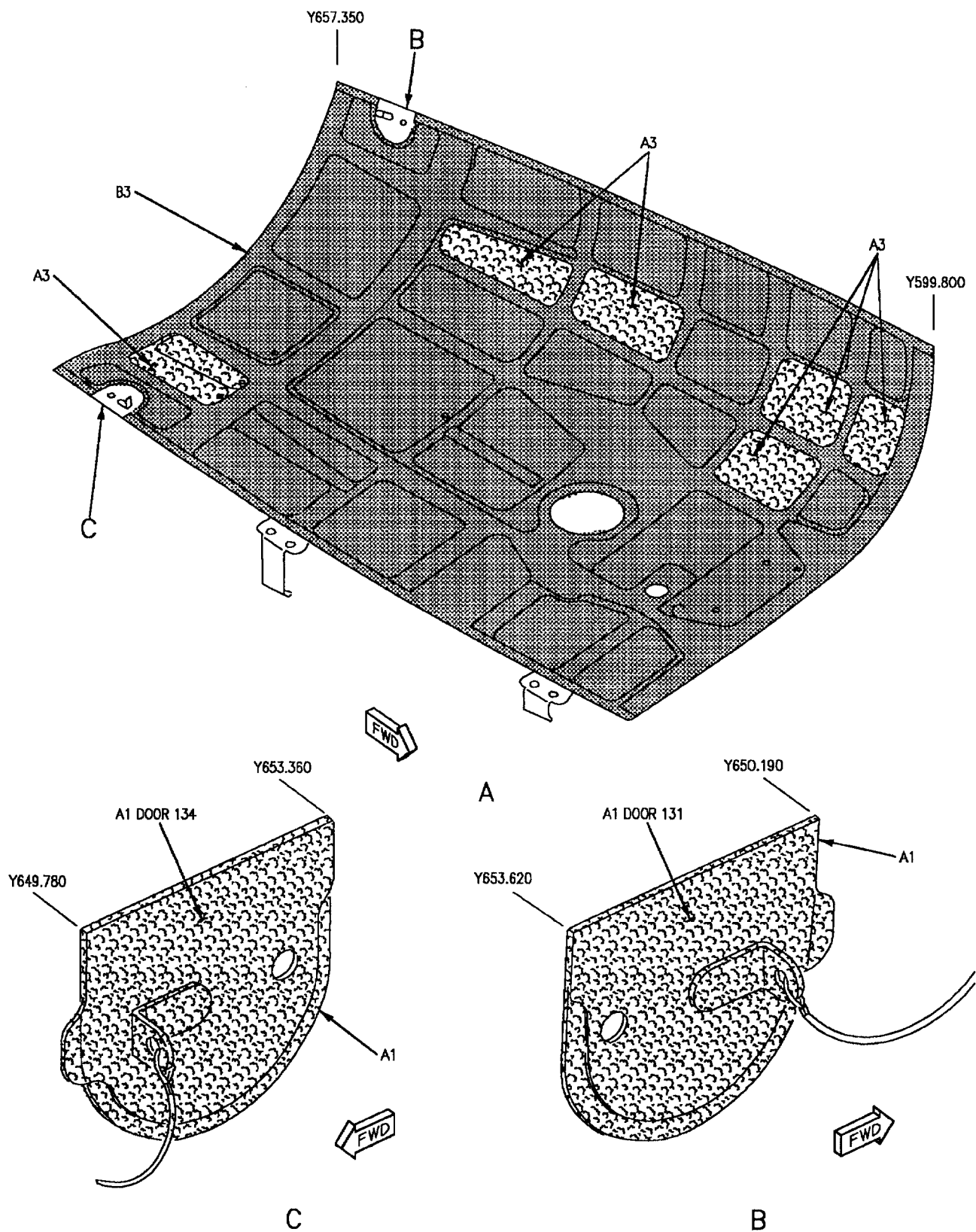
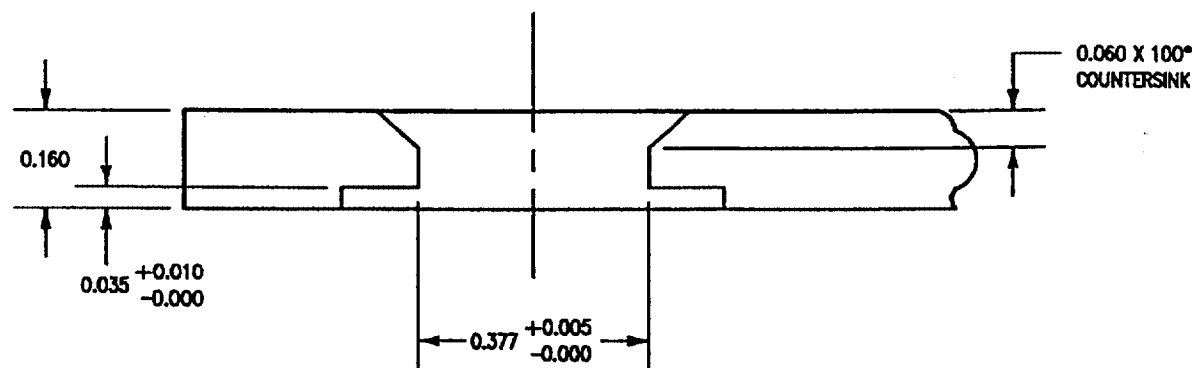
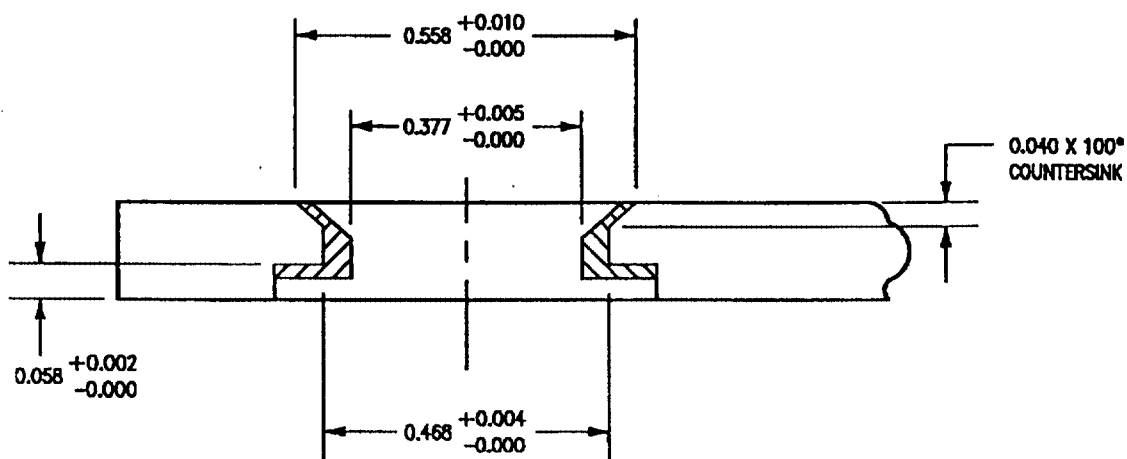


Figure 2. Repair Zones (Sheet 2)



STANDARD FASTENER HOLE



HOLE WITH GROMMET INSTALLED

Figure 3. Fastener Hole Repair

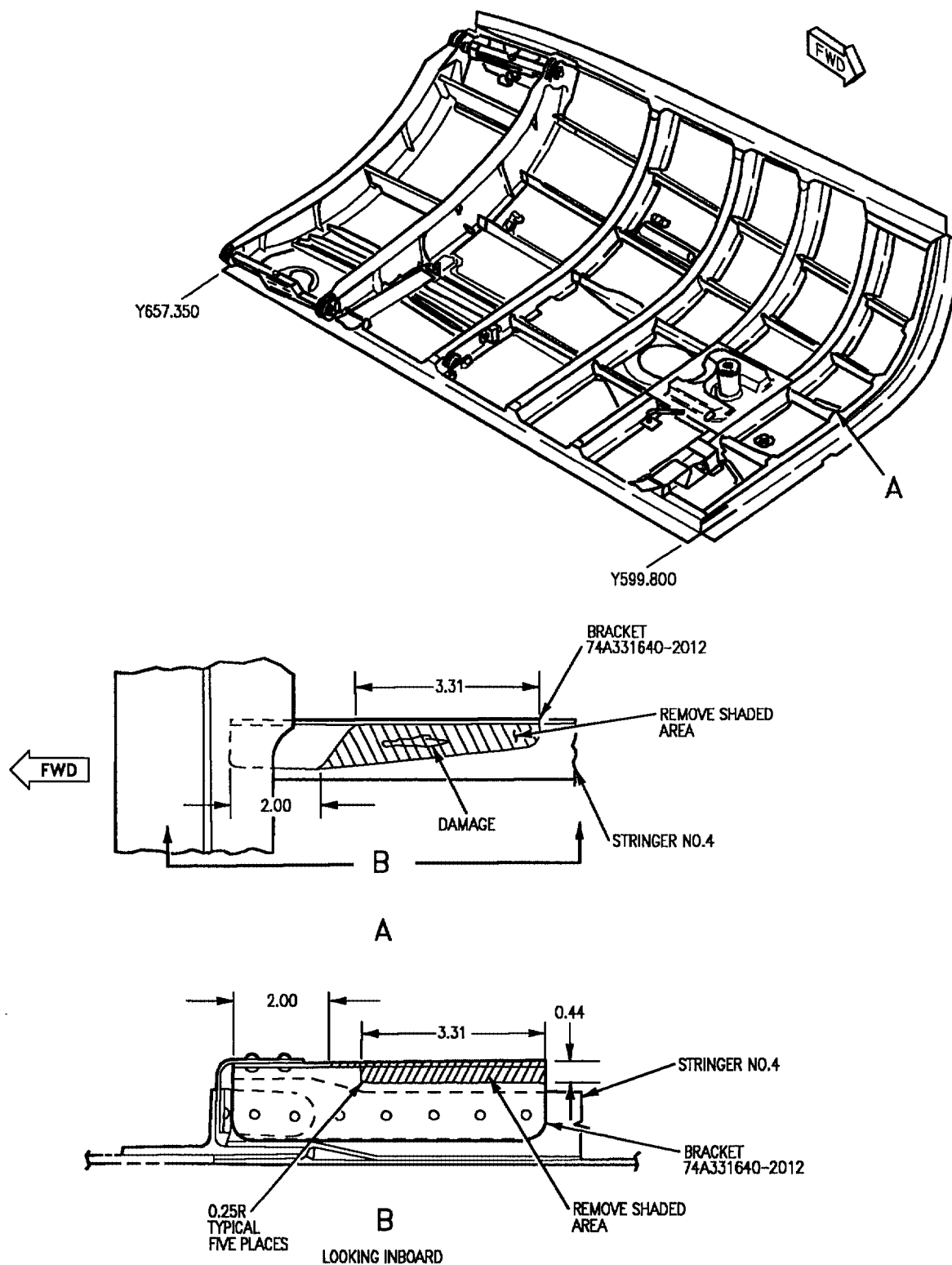


Figure 4. Bracket, 74A331640-2012 Repair

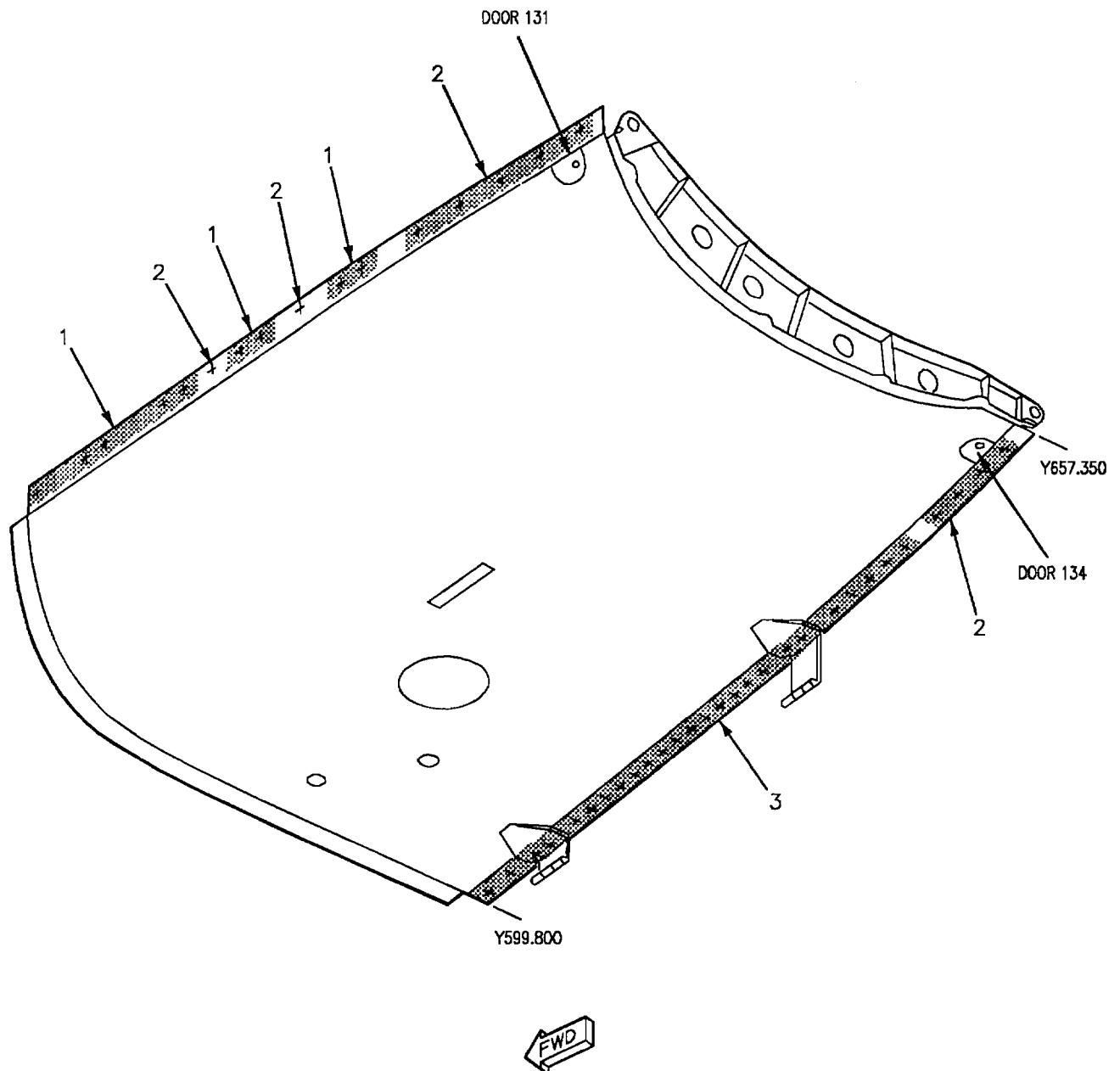


Figure 5. Door 68 Replacement (Sheet 1)





Idx No.	Eft		Nomenclature	Part Number
1			Receptacle	1950-6-10-0
2			Receptacle	1950-6-11-0
3			Receptacle	1950-6-9-1
LEGEND				
 Hole diameter is 0.377 +0.005 -0.000.				

Figure 5. Door 68 Replacement (Sheet 2)

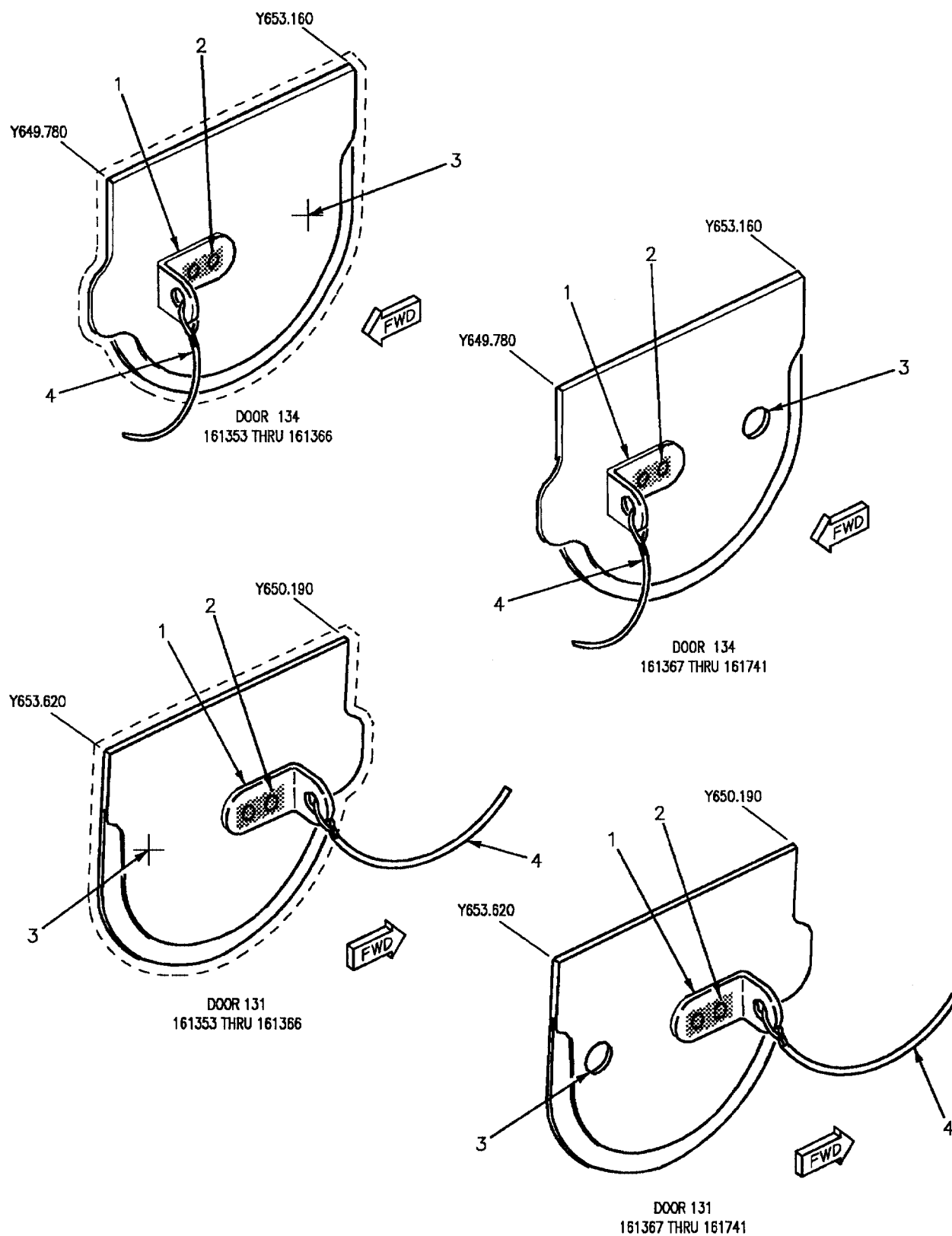


Figure 6. Door 131 and 134 Replacement (Sheet 1)








Idx No.	Eft		Nomenclature	Part Number
1			Bracket	AN743-13
2			Rivet	MS20426AD4
3			Receptacle	1960-6-12-0
4		 	Lanyard Sleeve	9M59-2-60L4 9M306-6
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.406 +0.007 -0.000.</p> <p> Lanyard assembly to be completed on installation.</p> <p> Hole diameter is 0.125 +0.003 -0.000.</p>				

Figure 6. Door 131 and 134 Replacement (Sheet 2)

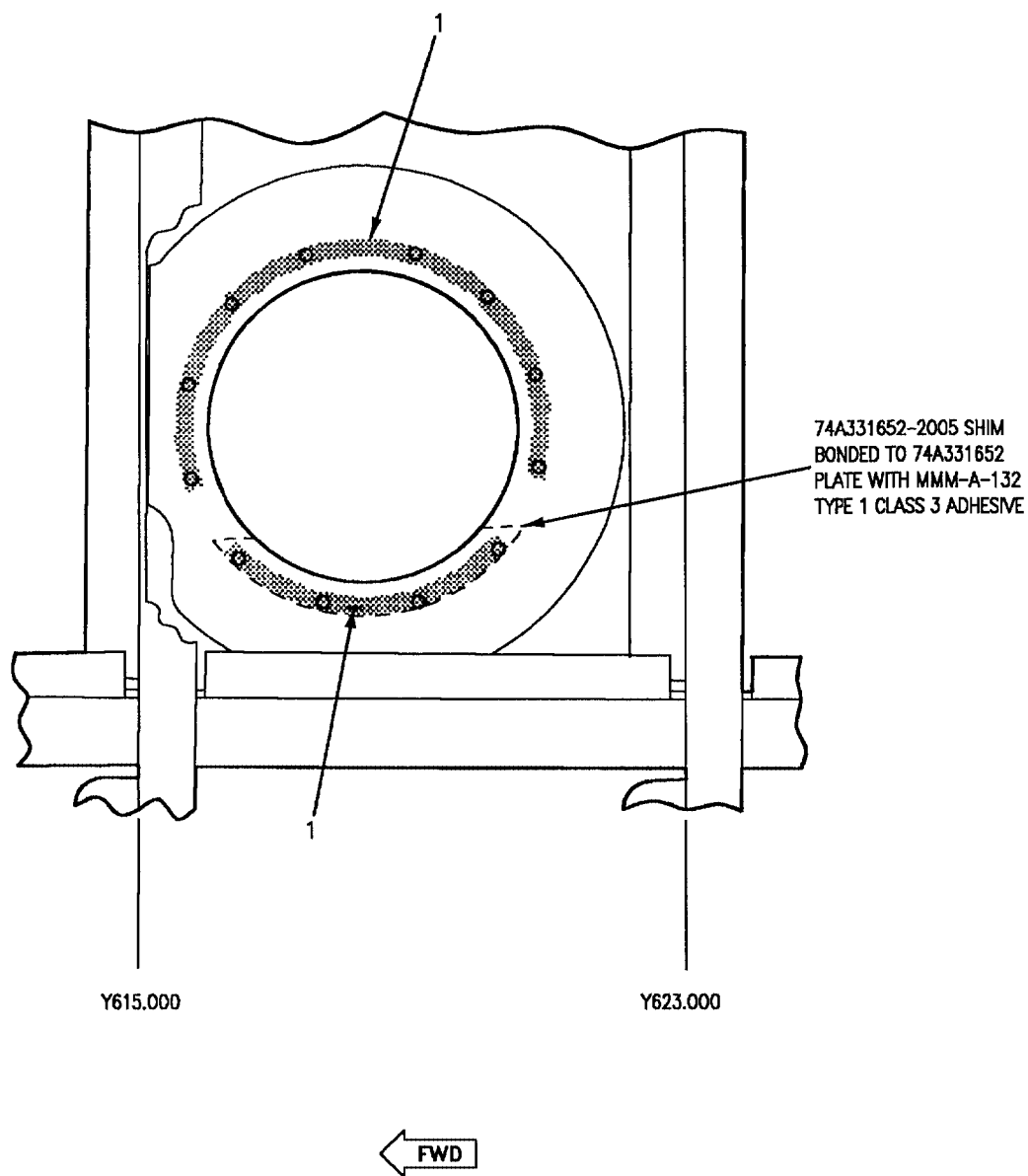


Figure 7. AS-2595/APN(V) Antenna Replacement (Sheet 1)



Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut	MS21059L08
LEGEND				
 Hole diameter in structure is 0.191 +0.006 -0.000.				

Figure 7. AS-2595/APN(V) Antenna Replacement (Sheet 2)

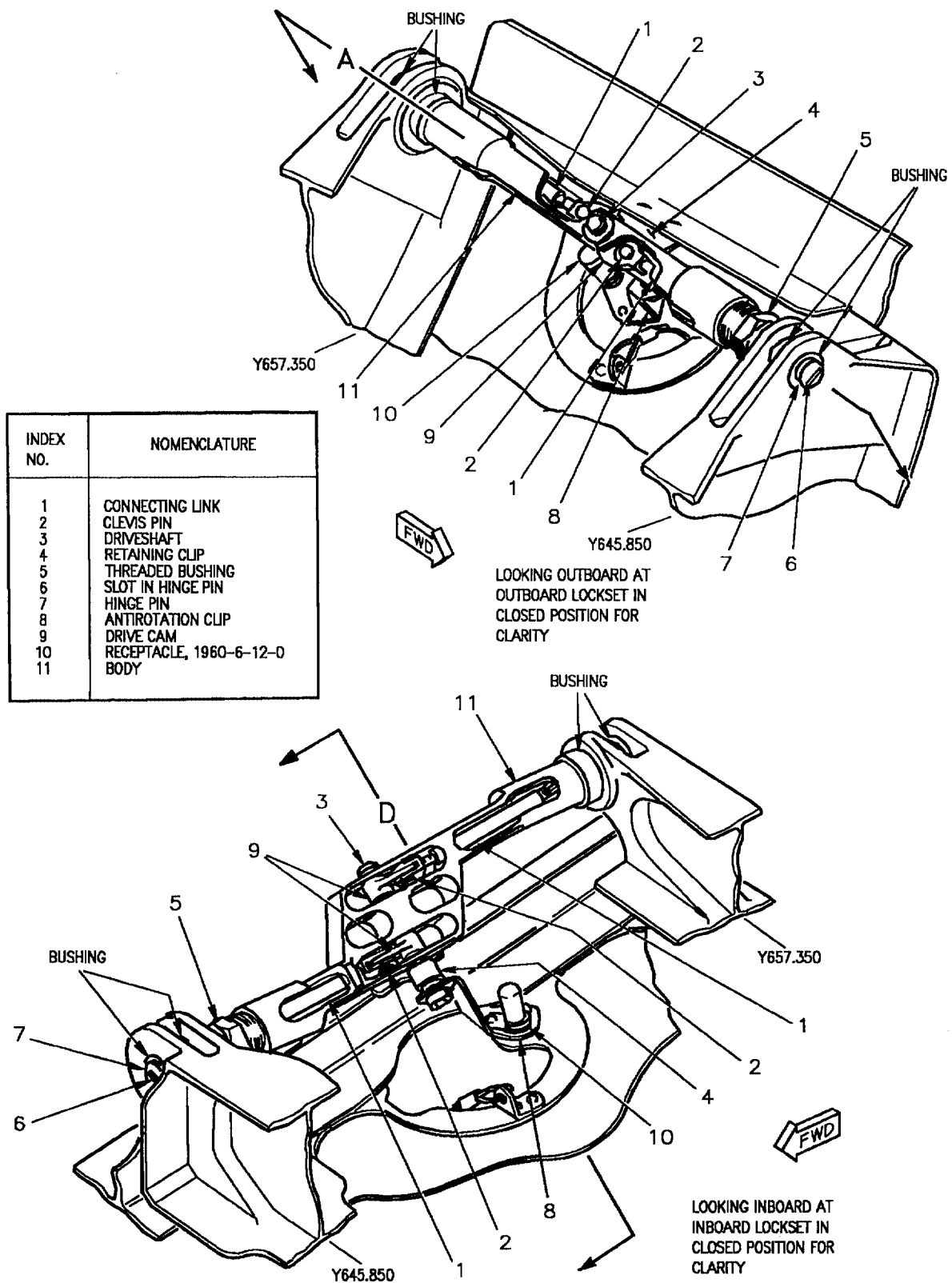


Figure 8. Lockset Replacement (Sheet 1)

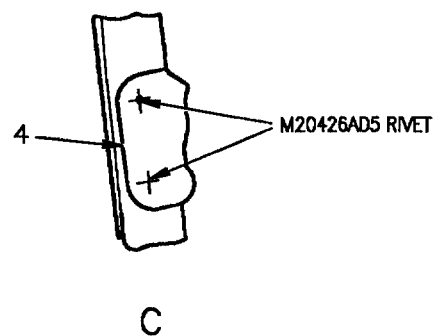
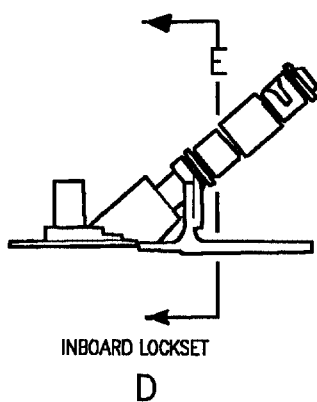
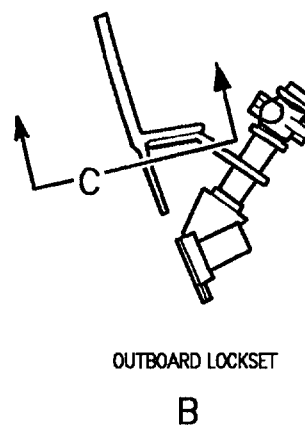
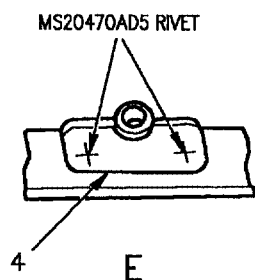
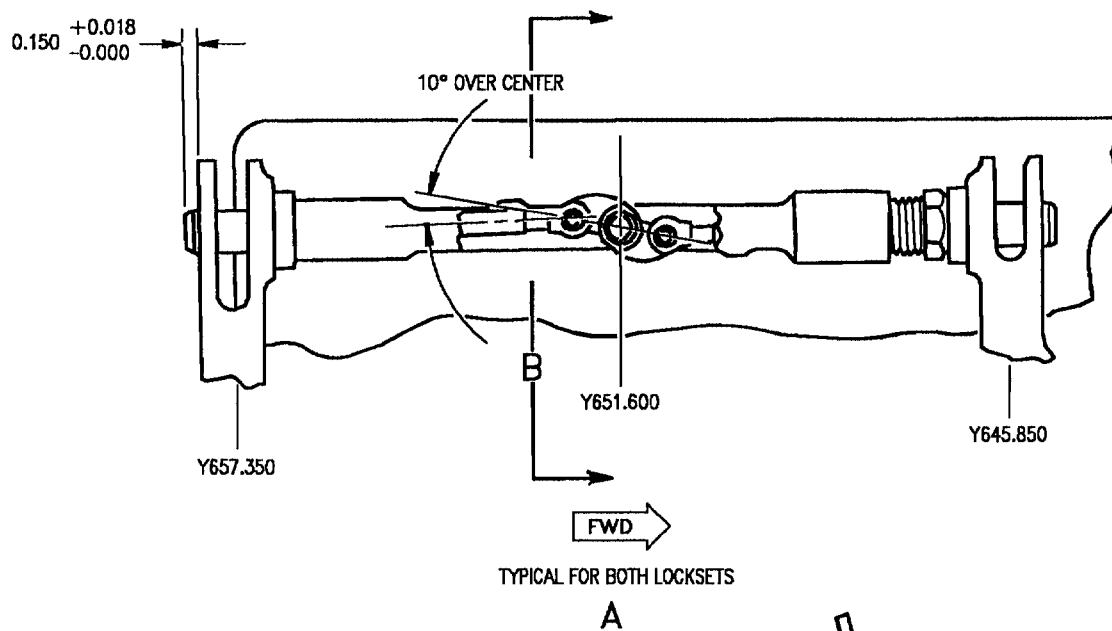


Figure 8. Lockset Replacement (Sheet 2)

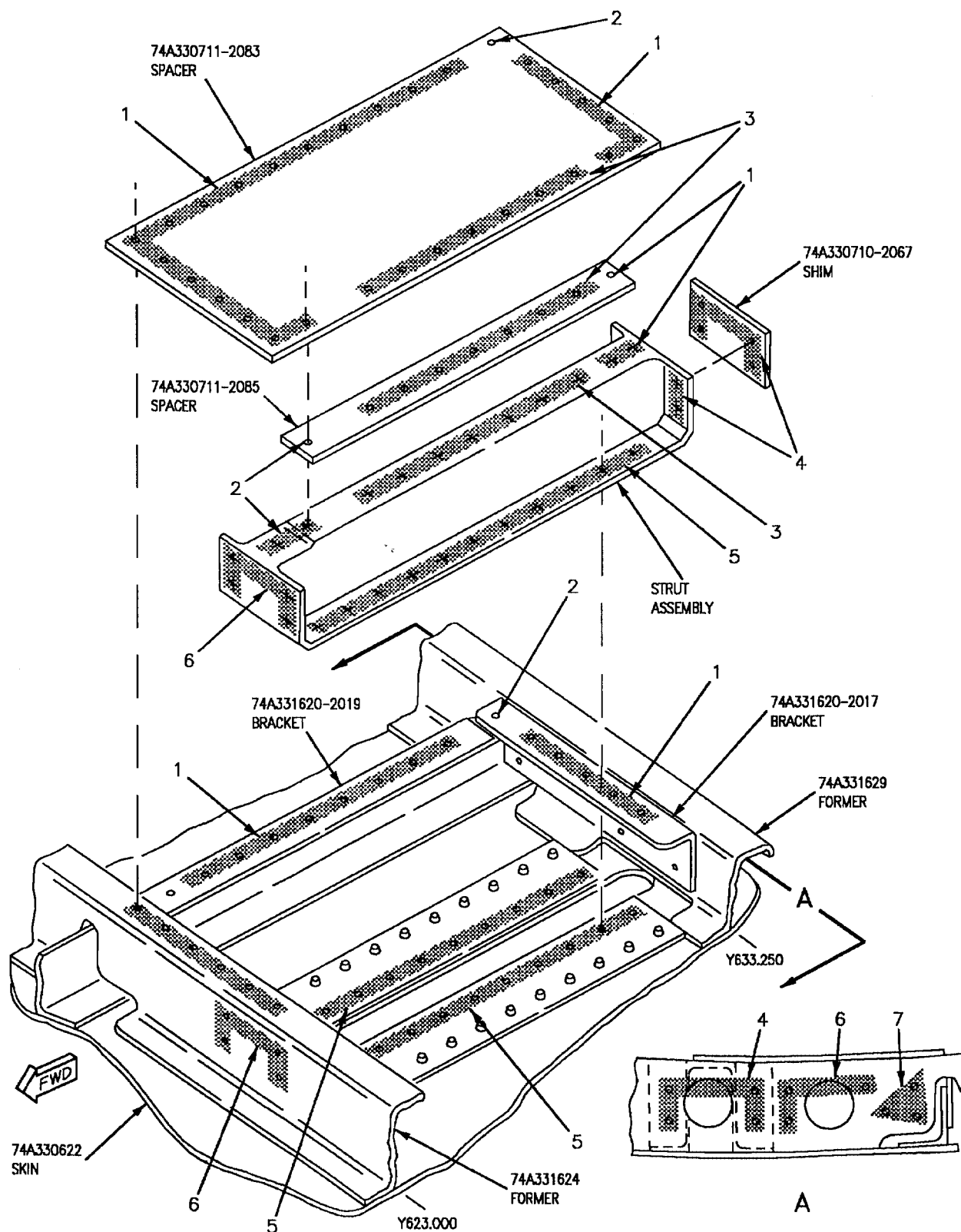


Figure 9. A2681-6, A2681-8 Strut Assembly Replacement (Sheet 1)













Idx No.	Eft		Nomenclature	Part Number
1			Rivet	NAS1398C6A3
2			Rivet	NAS1998C5A3
3			Rivet	MS20470DD6-()
4			Pin Collar	HL610-5-5 HL570-5MC
5			Pin Collar	HL11V6-3 HL570-6MC
6			Pin Collar	HL610-5-3 HL570-5MC
7			Pin Collar	HL610-5-4 HL570-5MC
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.192 +0.004 -0.000.</p> <p> Hole diameter is 0.160 +0.004 -0.000.</p> <p> Hole diameter is 0.192 +0.006 -0.000.</p> <p> Hole diameter is 0.1635 +0.0025 -0.0000.</p> <p> Hole diameter is 0.1895 +0.0025 -0.0000.</p>				

Figure 9. A2681-6, A2681-8 Strut Assembly Replacement (Sheet 2)

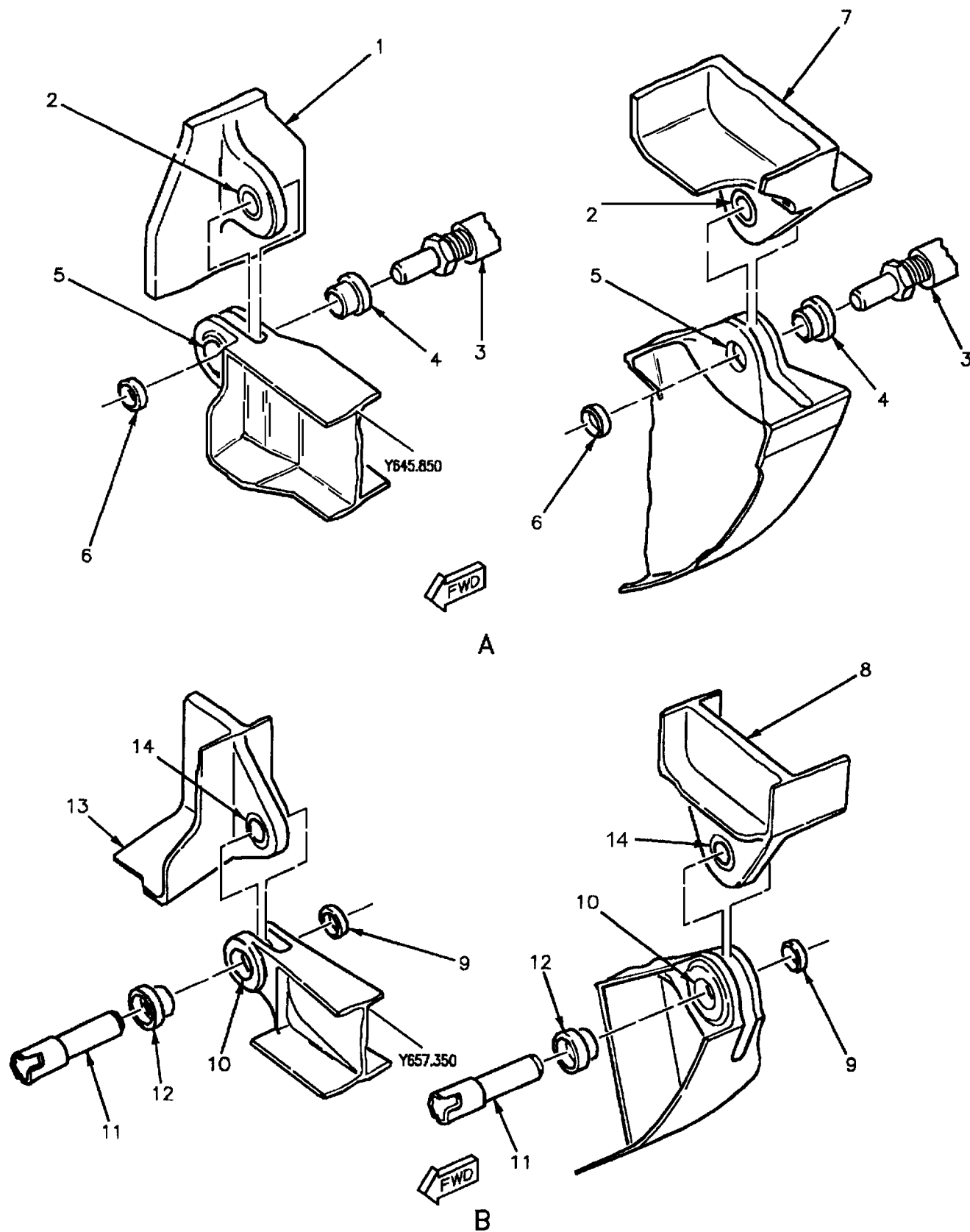


Figure 10. Wear Tolerances (Sheet 1)













DET	INDEX NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				MANUFACTURING	ALLOWABLE WEAR
A	1	74A332349 74A332359	FORMER FORMER	1.000+0.0010-0.0000	
	2	74A331645	BUSHING	0.6245+0.0022-0.0000 ID 1.0038+0.0000-0.0008 OD	+0.0015 
	3	A2791	LOCKSET ASSY	0.621+0.001-0.000	
	4	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0015 OD	+0.0015 
	5	74A331638	FORMER	0.8125 ± 0.0005	
	6	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0010 OD	+0.0015 
	7	74A331346 74A331356	FORMER FORMER	1.0000+0.0010-0.0000	
B	8	74A331351 74A331361	FORMER FORMER	1.0000+0.0010-0.0000	
	9	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0010 OD	+0.0015 
	10	74A331679	FORMER	0.8125 ± 0.0005	
	11	A2791	LOCKSET ASSY	0.621+0.001-0.000	
	12	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0015 OD	+0.0015 
	13	74A332345 74A332354	FORMER FORMER	1.0000+0.0010-0.0000	
	14	74A331645	BUSHING	0.6245+0.0022-0.0000 ID 1.0038+0.0000-0.0008 OD	+0.0015 
<p style="text-align: center;">LEGEND</p> <p> ALLOWABLE WEAR ON FUSELAGE LUG IS +0.0007 INCHES WHEN RE-INSTALLING EXISTING OR NEW BUSHINGS. BUSHING OUTER DIAMETER MUST BE WITHIN BLUEPRINT TOLERANCE FOR INSTALLATION.</p> <p> ALLOWABLE WEAR IS FOR INSTALLED BUSHING INNER DIAMETER ONLY. NO WEAR IS ALLOWED ON BUSHING OUTER DIAMETER.</p>					

Figure 10. Wear Tolerances (Sheet 2)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**STRUCTURE REPAIR****COMBINED AFT AND CENTER ENGINE ACCESS DOOR (DOOR 68)****EFFECTIVITY: 161742 AND UP**

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Components, Center Engine Access Door (Door 68) and Forward Section of Combined Engine	
Access Door (Door 68) Replacement	WP019 03
Center Engine Access Door (Door 68) or Combined Aft and Center Engine Access Door (Door 68),	
Fuselage Drop Link Bushing Drill Jig RE174331670-1 and Bushing Replacement	WP019 04
Aft Fuselage Sealing	WP023 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Chemical Treatment	WP008 00
Form In Place Sealing	WP010 00
Priming Procedures	WP011 00
Aft Fuselage Finish System and Markings	WP036 00
Communications, TACAN, ADF, Electronic Altimeter and IFF Systems	A1-F18AC-600-300
Antenna AS-2595/APN-194(V) (67E-S004 or 67E-T005)	WP020 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation	WP003 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Door, Access - Ctr Engine Bay, Assy of	FIG 011 10
Door, Engine Bay Aft - Assembly of	FIG 011 15
Structure Repair, General Information	A1-F18AC-SRM-200
Introduction	WP002 00
Working Titanium	WP004 02
Locating Blind Holes and Trim Lines	WP004 03
Gang Channel and Plate Nut Identification and Repair	WP004 05
Drilling Machines	WP004 17
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Aluminum Sheet, Free of Structure and Land Areas	WP031 00
Titanium Sheet, Free of Structure and Land Areas	WP032 00
Aluminum and Titanium Sheet, Formed Structure	WP033 00
Aluminum Sheet Edge Repairs	WP034 00
Titanium Sheet Edge Repairs	WP035 00
Aluminum Sheet Repairs, Across Structure and Lands	WP036 00
Titanium Sheet Repairs, Across Structure and Lands	WP037 00
Blending	WP038 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509
Structural Hardware	NAVAIR 01-1A-8

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Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 128	-	Y657.359 Engine Bay Door Former Cracks (ECP MDA F/A-18-00306)	1 Aug 92	-

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable.

The types of materials used are shown on figure

1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in table 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

4. **REPAIRABLE DAMAGE.** The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index.

NOTE

The limits in table 2 apply after blending the damage.

a. Scratches.

(1) Any scratches within one diameter of any holes must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

c. Cracks. All cracks must be repaired.

d. Holes.

(1) Damage in areas free of structure and lands must have edge of cleanup hole at least eight repair fastener diameters from any land, internal structure, or existing row of fasteners.

(2) Damage to lands, over structure. Only one repair per land.

e. Dents exceeding limits in table 1 must be repaired.

5. REPAIRS.

6. Types of repairs are temporary, one-time flight, permanent, critical area, alternate, and typical. Repair type definitions are in structure repair terms (A1-F18AC-SRM-200, WP002 00).

7. PERMANENT REPAIRS.**8. Scratches, Nicks, Gouges, or Corrosion.**

Blend scratches, nicks, gouges, or corrosion (A1-F18AC-SRM-250, WP038 00). If, after blending, the damage limits of table 2 are exceeded, repair aluminum sheet as listed. Refinish blended areas (A1-F18AC-SRM-500, WP036 00).

a. Scratches - make crack or edge repair.

b. Nicks, gouges, or corrosion - make hole or edge repair.

9. Cracks.

a. In repair zones A1 and A3, repair cracks free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) as listed:

(1) Stop drill ends of crack in repair zone A1 or rout out crack in repair zone A3.

(2) In repair zones A1 and A3, install lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair cracks across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1 and A3, repair cracks in aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

10. Holes.

a. In repair zones A1 and A3, repair holes free of structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or in titanium sheet (A1-F18AC-SRM-250, WP032 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair holes across structure or land areas in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or in titanium sheet (A1-F18AC-SRM-250, WP037 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1 and A3, repair holes in aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00) as listed:

(1) Cut out damage.

(2) In repair zones A1 and A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

11. **Edge.** In repair zones A1 and A3, repair edge damage in aluminum sheet (A1-F18AC-SRM-250, WP034 00) or in titanium sheet (A1-F18AC-SRM-250, WP035 00) as listed:

a. Cut out damage.

b. Select and install repair patch as listed:

(1) Corner Damage to Lands.

(2) Corner Damage to Lands and Bays.

(3) Edge Damage to Lands.

(4) Edge Damage to Lands and Bays.

(5) Full Width Damage to End.

c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

12. Dents.

a. In repair zones A1 and A3, repair dents free of structure and lands in aluminum sheet (A1-F18AC-SRM-250, WP031 00) or titanium sheet (A1-F18AC-SRM-250, WP032 00).

(1) Cut out damage.

(2) In repair zones A1 and A3, install type one flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

b. In repair zones A1 and A3, repair dents across structure and lands in aluminum sheet (A1-F18AC-SRM-250, WP036 00) or titanium sheet (A1-F18AC-SRM-250, WP037 00).

(1) Cut out damage.

(2) In repair zones A1 and A3, make repair as listed:

(a) Damage to Bay Requiring Repair Across Land; install flush or lap patch.

(b) Damage to Bay Requiring Repair Across Land and Edge of Part; install flush or lap patch.

(c) Damage to Land or Land and Bay; install flush or lap patch.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

c. In repair zones A1 and A3, repair dents to aluminum or titanium formed structure (A1-F18AC-SRM-250, WP033 00).

(1) Cut out damage.

(2) In repair zones A1 and A3, install repair one through six. Select repair that can be adapted to damaged part.

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

13. **Repair of 74A330638 Deflector.** Repair is required on aircraft when drain tube on engine vibrates against 74A330638 deflector, causing noticeable vibration in cockpit area.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Rivet, Solid (8)	BRFS5T()

Materials Required (Continued)

Nomenclature	Specification or Part Number
Sealing Compound	MIL-S-83430, Class B-4
a. Open door (A1-F18AC-LMM-010).	



Be careful not to enlarge holes when drilling out rivets. May cause structural failure.

b. Remove rivets in 74A330638 deflector.

c. Remove 74A330638 deflector.

d. Enlarge 0.50 diameter hole in skin to 0.75 diameter.

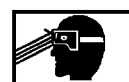
e. Touchup holes (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

2

f. Plug holes with BRFS5T rivets set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00). Length determined on installation.



Isopropyl Alcohol

1

g. Remove excess sealant with clean cheesecloth moistened with isopropyl alcohol.

h. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

i. Close door (A1-F18AC-LMM-010).

14. **Repair of 74A330847-2001 Springs On 74A330833 Strap Assembly ON 161742 THRU 162881.** These springs will be repaired by replacement with newly fabricated springs on an as required basis. Both left and right spring will be replaced even though only one spring is damaged. See figure 4. Replacement of springs is organizational maintenance. Fabrication and heat treatment of fabricated springs is intermediate maintenance.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Bolt (2)	NAS6303L3
Nut (2)	MS21042L3
Rivet, Solid (6)	BRFZ4T
Sealing Compound	MIL-S-83430, Class B-4
Springs (Fabricate)	17-7 PH Cres, 0.020 Sheet
Washer (4)	AN960C10L

15. Removal.

- a. Open doors 68L/R (A1-F18AC-LMM-010).

NOTE

Care should be taken to position new spring in attitude and direction of removed spring.

- b. Remove two fasteners attaching 74A330847-2001 springs to strap assemblies, and two fasteners attaching springs to keel former.

- c. Enlarge two holes in keel former to 0.191 +0.006 -0.000 diameter.

- d. Have springs fabricated to dimensions shown.

16. Installation.

- a. Secure left spring to former and mate drill to 0.191 +0.006 -0.000 diameter.

- b. Remove left spring.

- c. Secure right spring to former and mate drill to 0.191 +0.006 -0.000 diameter.

- d. Remove right spring.

- e. Secure left and right springs to respective strap assemblies as shown.

- f. Mate drill 0.1285 +0.0055 -0.0000 diameter hole two places.

- g. Remove left and right springs.

- h. Clean and deburr springs and keel former or web.

- i. Install left and right springs to respective strap assemblies with two rivets as shown. Length determined on installation.



Sealing Compound



2

- j. Fay surface seal springs to former with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

- k. Install bolts, wet with MIL-S-83430 sealing compound, washers and nuts, preparation and application (A1-F18AC-SRM-200, WP011 00).

- l. Refinish repair area (A1-F18AC-SRM-500, WP036 00).

- m. Apply fire and thermal barrier coating (WP023 00) over repair.

- n. Close combined doors 68L/R (A1-F18AC-LMM-010).

17. **Bracket, 74A331640-2012 Repair.** See figure 5. This repair is required when adjustment screw on right hand engine mounted bleed air pressure regulator scars the 74A331640 bracket.

Support Equipment Required

None

Materials Required

None

- a. Remove section of bracket to dimensions shown.

- b. Treat reworked aluminum surfaces of bracket, chemical conversion surface treatment (A1-F18AC-SRM-500, WP008 00).

- c. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

18. **Strap Assembly 74A330833 Repair, Intermediate Maintenance.** See figure 6. Strap assemblies of 74A330833 can be repaired as shown.

Support Equipment Required

None

Materials Required**NOTE**

Alternate item part numbers are shown indented.

Nomenclature	Specification or Part Number
Repair Doubler (AR)	6Al-4V Ti Anl (301 Stainless Steel, 1/2 Hard, MIL-S-5059)
Repair Shim (AR)	6Al-4V Ti Anl (301 Stainless Steel, 1/2 Hard, MIL-S-5059)
Rivet, Solid (AR)	CSR902B-3-()
Rivet, Solid (AR)	CSR902B-4-()

a. Remove strap assembly 74A330833, per Strap Assembly, 74A330833, Removal and Installation, below, this WP.

b. Remove damaged section of strap assembly as shown on sheet 1 or sheet 2. Cutting titanium (A1-F18AC-SRM-200, WP004 02).

c. Remove 74A330842 hinge if required.

d. Fabricate repair shim (shim) as required.

e. Fabricate repair doubler (doubler) as required.

f. Drill holes as indicated in shim and doubler (A1-F18AC-SRM-200, WP004 02).

g. Deburr all holes.

h. Secure shim to doubler by aligning holes as shown.

i. Mate drill remaining holes from shim to doubler.

j. Countersink holes in shim.

k. Install shim to doubler with CSR902B-3 rivets, length determined on installation.

l. Secure doubler assembly to existing strap assembly.

m. Mate drill all remaining holes from doubler to existing strap assembly.

n. Where the 74A330842 hinge has been removed, mate drill holes from existing strap assembly to doubler.

o. Countersink all newly drilled holes in existing strap assembly.

p. Remove doubler assembly from existing strap assembly.

q. Deburr all holes.

r. Install doubler assembly to existing strap assembly with CSR902B-4 rivets, length determined on installation.

s. Install 74A330842 hinge to doubler and existing strap assembly with CSR902B-4 rivets, when required. Rivet length determined on installation.

t. Install strap assembly 74A330833, per Strap Assembly, 74A330833, Removal and Installation, below, this WP.

19. Fastener Repair Attaching Doors 166 And 167 To 74A330684 Former. This repair is for fasteners that have worked loose from door hinge and mating former. One or both doors may be worked at the same time.

Support Equipment Required

None

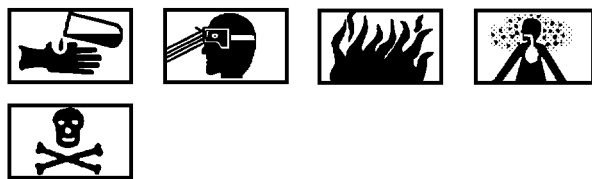
Materials Required**NOTE**

Alternate item part numbers are shown indented.

Nomenclature	Specification or Part Number
Brush, Varnish	H-B-695 Type 1, Grade A, Size 1
Cheesecloth	CCC-C-440, Type 1, Class 1
Collar (AR)	SW1000-5M
Methyl Ethyl Ketone	TT-M-261
Pin, Hi Lok (AR)	HLT311-5-4
Sealing Compound	MIL-S-22473, Grade A
Sealing Primer	MIL-S-22473, Grade T, Form R MIL-S-22473, Grade N, Form R

a. Remove door 68 (A1-F18AC-LMM-010).

b. Remove pins and collars from affected door and replace with new pins and collars, for fasteners go to Replacement, Door 166, this WP, or Replacement, Door 167, this WP, as applicable.



Methyl Ethyl Ketone

17

c. Clean pin and collar threads with clean cheesecloth moistened with methyl ethyl ketone and wipe dry with clean, dry cheesecloth.



Sealing Primer

18

d. Using brush, coat pin and collar threads with grade T sealing primer and allow to air dry for 15 minutes. Grade N sealing primer may be used as an alternate.

e. Align applicable door with holes in former and secure in place.

f. Install pins.



Sealing Compound

19

g. Using brush, coat pin and collar threads with grade A sealing compound.

h. Install collars and torque immediately.

i. Cure grade T sealing primer for 2 hours and grade N sealing primer for 12 hours.

j. Refinish if required (A1-F18AC-SRM-500, WP036 00).

k. Install door 68 (A1-F18AC-LMM-010).

20. Former, 74A331679 Outboard Lower Flange Repair. See figure 7. This repair is for crack in former. When crack is removed an edge distance of 0.53 inch minimum shall be maintained from the next fastener. Damage exceeding this minimum dimension requires a depot engineering disposition.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Collar (2)	HL570-8MC
Isopropyl Alcohol	TT-I-735, Grade 1
Pin, Hi Lok (2)	HLT311-8-5
Rivet, Solid (2)	MS20426AD6
Sealing Compound	MIL-S-83430, Class B-4

a. Remove door per Door 68 Removal and Installation, below, this WP.

b. Remove outboard lockset assembly per Lockset Assembly Replacement, below, this WP.

c. Remove front two fasteners on both sides of Y657.350 passing through skin and former flanges, retain one 74A330711-2133 spacer (spacer).



When removing damaged flange, be careful not to damage inner surface of skins or web of former creating more damage.

d. Remove damaged portion of flange as shown.

e. Enlarge two remaining holes in flange, and one spacer retained in step c, to 0.2495 +0.0025 -0.0000 inch diameter.

f. Recountersink mold line surface of enlarged holes.

g. Deburr reworked areas.

h. Clean area of all foreign objects.

i. Chemically treat raw material surfaces, chemical conversion surface treatment (A1-F18AC-SRM-500, WP008 00).

j. Touchup fastener holes (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

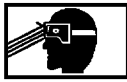
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k. Plug upper two holes in skins with MS20426AD6 rivets set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00). Rivet length determined on installation.

NOTE

Install spacer with radius toward fillet of former.

l. Install two HLT311-8-5 pins set wet with MIL-S-83430 sealing compound and two HL570-8MC collars with retained spacer from step c installed under aft collar.



Isopropyl Alcohol

1

m. Remove excess sealing compound with clean cheesecloth moistened with isopropyl alcohol.

n. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

o. Install lockset assembly per Lockset Assembly Replacement, below, this WP.

p. Install door per Door 68 Removal and Installation, below, this WP.

21. **FASTENER HOLE REPAIR.** See figure 3. Repair procedure is for elongated holes, deep countersink, oversize hole, and/or deep counterbore for flare lock fasteners (milson fasteners) where door is 0.160 inch thick. Repair is intermediate maintenance.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Grommet Tool, Installation, 100° Countersink	NST-130-6

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Grommet	1938-6
Methyl Isobutyl Ketone	D1153
Primer, Epoxy	MIL-P-23377, Type 2, Class 1

a. Remove door 68.

b. Remove milson fastener at damaged hole.

c. Measure door thickness. Door must be 0.160 +0.010-0.010 inch thick at damaged hole to do this repair.

d. Enlarge hole to 0.468 +0.0004 -0.000 inch diameter. Maintain fastener hole centerline.

e. Countersink hole 100° to 0.558 +0.010 -0.000 inch diameter.

f. Increase inside moldline counterbore depth to 0.058 +0.002-0.000 inch.

g. Deburr as required.

h. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).



Primer

10

i. Install 1938-6 grommet wet with epoxy primer or equivalent, using NST-130-6 installation tool.



Methyl Isobutyl Ketone

3

j. Remove excess primer with cheesecloth moistened with methyl isobutyl ketone.

k. Make sure final hole size after installation is 0.377 +0.005 -0.000 inch diameter.

l. Make sure grommet is tight in fastener hole and does not rotate. No splits or cracks in flare are allowed and countersink edge shall be flush.

m. Apply finish system as required (A1-F18AC-SRM-500, WP036 00).

n. Install milson fastener.

o. Reinstall door 68.

22. TEMPORARY REPAIRS.

23. Bushing Repair At Formers Y645.850 and Y657.350. This procedure temporarily repaired bushings located in Y645.850 and Y657.350 formers. Depot Level repair of 74A331645, 74A331656-2001, and 74A331656-2003 bushings is now provided in (WP019 04).

24. Fabrication of 74A330833 Strap Assemblies, Intermediate Maintenance. See figure 8. Fabricated strap assemblies can be used on aircraft until procurable spared items are available. Fabricated strap assemblies shall not be used as a permanent replacement for damaged straps.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Rivet, Solid (AR)	BRFZ4T()
Strap (Fabricate)	6Al-4V Ti Anl, MIL-T-9046

a. Remove damaged strap assembly from aircraft. See Replacement, Strap Assembly, 74A330833, Removal and Installation, this WP.

b. Measure length of strap only.

c. Select one of three dimensions given in figure 8 which most closely represents the dimension taken in step b.



Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

d. Remove hardware from ends of strap, and keep for reinstallation.

e. Fabricate new strap using dimension selected, working titanium (A1-F18AC-SRM-200, WP004 02).

f. Deburr holes.

NOTE

Secure hardware to same surface of strap.

g. Temporarily secure hardware removed in step d to fabricated strap.

h. Mate drill 0.1285 +0.0055 -0.0000 inch diameter holes from hardware into strap.

i. Remove hardware from strap.

j. Deburr holes.

k. Install hardware to strap with BRFZ4T rivets, length determined on installation.

l. Install strap assembly. See Replacement, Strap Assembly, 74A330833, Removal and Installation, this WP.

25. REPLACEMENT.

26. DOOR 68. Door 68 is replaceable as depot maintenance (WP019 03) and requires drilling on installation (A1-F18AC-SRM-200, WP004 03). See figure 9 for receptacles. For replacement rivets, attaching receptacles, not shown (A1-F18AC-SRM-200, WP004 05). For flare lock fasteners (A1-F18AC-SRM-440, FIG 011 10, FIG 011 15). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8). For form in place sealing (A1-F18AC-SRM-500, WP010 00). Fasteners are shown for attaching aft section to forward section of combined door.

27. DOOR 131 AND 134. See figure 10 for receptacles. For replacement rivets, attaching receptacles, not shown (A1-F18AC-SRM-200, WP004 05). Door 131 and 134 are interchangeable. For flare lock fasteners (A1-F18AC-SRM-440, FIG 011 10). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8).

28. DOOR 166. Door 166 is interchangeable; apply markings as required (A1-F18AC-SRM-500, WP036 00). See figure 11 for receptacles and hinge attach rivets. For flare lock fasteners (A1-F18AC-SRM-440, FIG 011 15). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8).

29. DOOR 167. Door 167 is interchangeable; apply markings as required (A1-F18AC-SRM-500, WP036 00). See figure 12 for receptacles and hinge attach rivets. For flare lock fasteners (A1-F18AC-SRM-440, FIG 011 15). Replace receptacles and flare lock fasteners (Milson panel fasteners) (NAVAIR 01-1A-8).

30. AS-2595/APN-194(V) ANTENNA. See figure 13 for attaching hardware. For replacement rivets, attaching plate nuts, not shown (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-600-300, WP020 00).

31. **DOOR 68 REMOVAL AND INSTALLATION.** See figure 1.

32. **Removal.**

a. With door open (A1-F18AC-LMM-010).

(1) Support door.

(2) Disconnect antenna lead; stow in a safe position.

(3) Remove pins (1, 5) supporting flexible straps (2, 6) to keel structure.

(4) Remove pin assemblies (77, 79) and put in stowed position on door.

(5) Release holders (31, 87) from receivers (30, 86) and stow in closed position on closed door.

(6) Remove door assembly.

b. With door closed.

(1) Open door 64 (A1-F18AC-LMM-010).

(2) Drain fuel dump catch tank into an approved safety container.

(3) Open door 166 and door 167 to provide access to flexible fairing strap latches (A1-F18AC-LMM-010).

(4) Disconnect flexible fairing strap latch by disengaging latch release pin. Both latches must be disconnected.

(5) Rotate the rotary latch, on outboard aft fuselage, to the open position.

(6) Open door 131 and door 134 to provide access to lockset assemblies (60, 84) (A1-F18AC-LMM-010).



To prevent damage to the lockset, all door fasteners must be tight (installed) before rotating lockset assemblies. Do not exceed 250 inch-pounds of torque.

(7) On door 68L, rotate outboard lockset assembly (60) 130° clockwise and inboard lockset assembly (84) 130° counterclockwise to disengage locking pins. On door 68R, rotate outboard lockset assembly (60) 130° counterclockwise and inboard lockset assembly (84) 130° clockwise, to disengage locking pins.

(8) Keeping door fully supported, loosen all fasteners and pull to extend all fasteners.

(9) Keeping door fully supported, lower door until flexible straps (2, 6), pins (1, 5) and antenna lead are accessible.

(10) Disconnect antenna lead; stow in a safe position.

(11) Remove pins (1, 5).

(12) Remove door.

33. **Installation.**

a. Inspect door for damage (A1-F18AC-LMM-010).

b. Support door.

NOTE

Flexible straps must be installed free of twists.

c. Install pins (1, 5) supporting flexible straps (2, 6) to keel structure.

d. Connect antenna lead.



To prevent damage to the door, make sure compartment is clean and free of foreign objects before closing door.

e. Support door in closed position.

f. Tighten all door fasteners.



To prevent damage to the lockset, all door fasteners must be tight (installed) before rotating lockset assemblies. Do not exceed 250 inch-pounds of torque.

g. On door 68L, rotate outboard lockset assembly (60) 130° counterclockwise and inboard lockset assembly (84) 130° clockwise to engage locking pins. On door 68R, rotate outboard lockset assembly (60) 130° clockwise and inboard lockset assembly (84) 130° counterclockwise, to engage locking pins.

h. Close door 131 and door 134 (A1-F18AC-LMM-010).

i. Rotate the rotary latch on outboard aft fuselage to the locked position.

j. Connect flexible fairing strap with both latches, rotate handles until latches are secured.

k. Close door 166 and door 167 (A1-F18AC-LMM-010).

WARNING

Inspect for proper alignment between fuel sump bellows and engine dump line to avoid fuel dumping inside of door instead of into sump. Make this check visually before forward engine bay door (Door 64) is closed.

l. Close door 64 (A1-F18AC-LMM-010).

34. **LOCKSET ASSEMBLY REPLACEMENT.** See figure 14.

35. **Removal.**

a. Open door (A1-F18AC-LMM-010).

CAUTION

Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

b. Remove rivets attaching retaining clip (4) to door structure.

c. Remove clevis pins (2), cotter pins and washers at the drive cam (9) end of the connecting links (1).

d. Push hinge pins (7) into the body (11) until they bottom.

e. Retract threaded bushings (5) on forward end of body (11) from bushing in frame and seat against body (11).

f. Remove aft end of body (11) until clear of aft frame bushing.

g. Remove assembly.

CAUTION

Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

h. Remove rivets attaching 1960-6-12-0 receptacle (10) to antirotation clip (8). Retain receptacle for reinstallation.

36. **Installation.**

a. Fully retract threaded bushing (5).

b. Remove clevis pins (2), cotter pins and washers at drive cam (9) end of connecting links (1).

c. Push hinge pins (7) into body (11) until they bottom.

d. Insert aft end of body (11) into the aft frame bushing until firmly seated.

CAUTION

To prevent damage to the structure, do not spread the Y645.850 and Y657.350 frames by continued rotation of the threaded bushing (5) after it has bottomed in the forward recessed bushing. The body (11) shall be free of end play and still be able to rotate by hand pressure only.

e. Rotate threaded bushing (5) until it nests in the recess of the forward frame bushing.

f. Reinstall clevis pins (2), cotter pins and washers at the drive cam (9) end of the connecting links (1).

NOTE

Right side driveshafts are rotated in the opposite direction.

g. Rotate driveshaft (3), of outboard lockset in a clockwise direction and inboard lockset in a counter-clockwise direction, using 7/32-inch hex recess on end of driveshaft (3), until it is seated in the 10 degree over center position. See detail A.

NOTE

Hinge pin (7) adjustments must be made in 180 degree increments.

h. Rotate hinge pins (7), using screwdriver slots in hinge pins (6) until a projection of 0.150 +0.018 -0.000 is achieved. See detail A.

i. Mate drill retaining clip (4), apply finish system (A1-F18AC-SRM-500, WP036 00).

j. Rivet retaining clip (4) to door structure with applicable rivets. See detail B and D.

k. With door 131 or 134 in position on door 68, mate drill antirotation clip (8) with 0.377 +0.005 -0.000 diameter hole.

l. Position 1960-6-12-0 receptacle (10) on inner side of antirotation clip (8).

m. Mate drill and countersink hole diameter 0.128 +0.006 -0.000, 1960-6-12-0 receptacle (10) to antirotation clip (8).

tion clip (8). Apply finish system (A1-F18AC-SRM-500, WP036 00).

n. Install receptacle with two MS20426AD4 rivets flush to outer surface of antirotation clip (8).

o. Remove foreign objects from area.

p. Refinish area (A1-F18AC-SRM-500, WP036 00).

q. Close door (A1-F18AC-LMM-010).

37. **STRAP ASSEMBLY, 74A330833, REMOVAL AND INSTALLATION.** See figure 1.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Molybdenum Disulfide	MIL-M-7866
Rivet, Solid (2)	CSR903B-4
Sealing Compound	MIL-S-83430, Class B-4

38. **Removal.**

a. Open doors 68L/R (A1-F18AC-LMM-010).

b. From latch end of strap assembly, remove strap assembly by sliding strap through fairing retainers.



Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

NOTE

Removal of fasteners attaching spring to former or web will remove both left and right hand springs simultaneously.

c. Remove rivets or bolts as applicable from spring, retain bolts for reinstallation.

d. Slide strap assembly up as far as possible, remove lower strap through fairing retainer.

e. Pull upper strap assembly downward, sliding strap through fairing retainers.

39. **Installation.**

a. On door, be sure latch on strap assembly is to inboard side of door, install strap assembly by sliding strap through fairing retainers.

b. Install upper strap assembly by sliding strap through fairing retainers as far as possible.

c. Install lower strap assembly by sliding strap through fairing retainer.



Sealing Compound

2

d. Fay surface seal springs to former or web as applicable with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

e. Install rivets, length determined on installation, or reinstall bolts set wet with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

f. Refinish area around spring (A1-F18AC-SRM-500, WP036 00).

g. Apply fire and thermal barrier coating (WP023 00) over area of spring and fasteners.



Molybdenum Disulfide

20

h. Apply MIL-M-7866 to areas of contact between straps and retainers.

i. Close doors 68L/R and set latch as required (A1-F18AC-LMM-010).

40. **HOLDER ASSEMBLY A2847-2 AND A2847-3, REPLACEMENT.** See figure 15.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Collar (2)	HL570-6MC
Pin, Hi Lok (24)	HLT311DL-6-3
Rivet, Solid (30)	BRFZ5E
Sealing Compound	MIL-S-83430, Class B-4

41. **Removal.**

a. Open door (A1-F18AC-LMM-010).



Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

b. Remove rivets or pins and collars attaching holder assembly to skin and structure. See view A or B as required.

c. Remove holder assembly.

d. Remove sealing compound from holes and mating surface.

e. Clean area of foreign objects.

42. Installation.

a. Position holder assembly with pivot axis positioned as shown, and strut open through hole in skin.

NOTE

Close and open strut to make sure of proper operation before mate drilling holes.

b. Mate drill holes through holder assembly from skin. Rivet holes are 0.161 +0.005 -0.000 inch diameter, pin holes are 0.1850 +0.0030 -0.0000 inch diameter.

c. Remove holder assembly from skin and deburr all holes.

d. Clean area of foreign objects.



Sealing Compound

2

e. Treat for corrosion prevention (A1-F18AC-SRM-500, WP036 00). Fay surface seal mating parts with sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

f. Install fasteners set wet with MIL-S-83430 sealing compound, preparation and application (A1-F18AC-SRM-200, WP011 00).

g. Make sure any drain hole in area of repair is free of sealing compound.

h. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

i. Close door (A1-F18AC-LMM-010).

43. LATCH ASSEMBLY H2761-1 REPLACEMENT.
See figure 16.

Support Equipment Required

None

Materials Required

Specification or Part Number

Nomenclature

Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Rivet, Solid	BRFZ6E

44. Removal.

a. Remove engine (A1-F18AC-270-300, WP003 00).



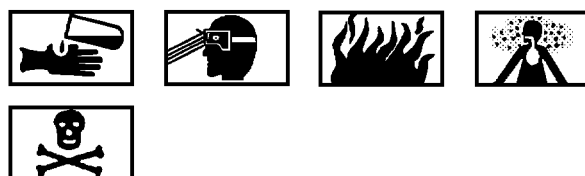
Be careful not to enlarge holes when drilling out rivets. Enlarged holes may cause structural failure.

b. Remove rivets attaching latch assembly to skin and door, six places.

c. Remove latch assembly.

d. Clean area of foreign objects.

45. Installation.



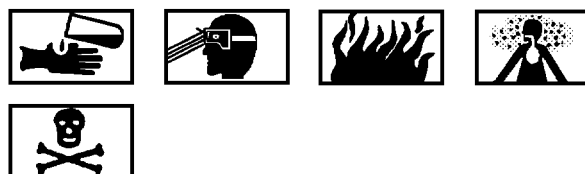
Primer

10

a. Coat mating surfaces of housing and keeper with two coats of primer. Let dry before installation.

b. Position housing to skin and keeper to door as shown.

c. Set rivets wet with one coat of primer.



Isopropyl Alcohol

1

d. Clean mold line surfaces of excess primer using clean cheesecloth moistened with isopropyl alcohol.

e. Clean area of foreign objects.

f. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

g. Close door (A1-F18AC-LMM-010).

h. Eyebolt may require adjusting to ensure contact with cam and eyebolt.

i. Open door (A1-F18AC-LMM-010).

j. Install engine (A1-F18AC-270-300, WP003 00).

46. **WEAR TOLERANCES.** See figure 17.

47. Wear tolerances, allowable wear, if not indicated, requires a depot engineering disposition. The following damage criteria shall apply when signs of rotating or loose bushings are found.

a. When aft fuselage former Y645.85 and Y657.35 bushings (74A331645) are found misaligned, rotated, or loose inside housing lugs, do substeps below.

(1) If bushing is loose, can be moved by hand forward and aft and rotated inside the fuselage former lug bore and the door mechanism does not latch or latches with difficulty, depot engineering disposition required. If door latches with little or no difficulty, depot engineering required within 50 flight hours or if latching becomes difficult.

(2) If bushing is misaligned but not loose, and the latch mechanism engages with slight difficulty, repair within 200 flight hours or when latching is difficult.

NOTE

Damage to bushing requires that all 3 attach bushings be replaced and line reamed.

b. When center engine bay door lock pin bushings (74A331656-2001) are found rotating or loose in housing lugs, do substeps below.

(1) Back out the lockset assembly adjustable threaded bushing and retract latch mechanism away from Y645.85 and Y657.35 bushings (74A331645).

(2) If bushing rotates by hand but does not move against lug bore, depot engineering disposition required.

Readjust latch mechanism adjustable nut. Aircraft is authorized 200 flight hours before depot repair is required.

(3) If bushing moves against the lug bore, remove lockset assembly and remove bushings.

(4) Measure the lug bore diameter in four directions.

(5) If the largest measured diameter is 0.8250 or greater, depot engineering disposition required.

(6) If the largest measured diameter is less than 0.8250, reinstall bushings and lockset assembly. Aircraft is authorized 50 flight hours before depot repair is required.

NOTE

Damage to bushing requires that all 3 attach bushings be replaced and line reamed.

c. When center engine bay door lock pin staked bushings (74A331656-2003) are found rotating or loose in housing lugs, do substeps below.

(1) If bushing rotates by hand but does not move against lug bore, depot engineering disposition required. Aircraft is authorized 200 flight hours before depot repair is required.

(2) If bushing moves against lug bore, push bushing toward adjacent former lug.

(a) If bushing does not become dislodged from the lug, depot engineering disposition required. Aircraft is authorized 50 flight hours before depot repair is required.

(b) If bushing becomes dislodged from the lug, depot engineering disposition required.

(c) Measure the lug bore diameter in four directions.

(d) If the largest measured diameter is 0.8250 or greater, depot engineering disposition required.

(e) If the largest measured diameter is less than 0.8250, reinstall bushings wet with MIL-S-83430 sealing compound (A1-F18AC-SRM-200, WP011 00). Allow sealing compound to dry before latching door. Aircraft is authorized 50 flight hours before depot repair is required.

Table 1. Negligible Damage Limits




















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (8)	Former Zone B3	0.050	0.0006	0.0006	100%		NA
Fig 1 (9)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (10)	Strap Zone A1	0.090	0.002	0.002	100%		NA
Fig 1 (12)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (13)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (14)	Former Zone A3 Zone B3	0.071 0.071	0.002 0.002	0.002 0.002	100% 100%	 0.014	NA NA
Fig 1 (17)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (18)	Former Zone A3	0.063	0.007	0.002	100%		NA
Fig 1 (19)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (20)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (21)	Ramp Zone A3	0.025	0.001	0.001	100%		NA
Fig 1 (22)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (23)	Former Zone A3 Zone B3	0.090 0.090	0.002 0.0006	0.002 0.0006	100% 100%	 0.045	NA NA
Fig 1 (25)	Former Zone A3 Zone B3	0.071 0.071	0.002 0.0006	0.002 0.0006	100% 100%	 	NA NA
Fig 1 (26)	Doubler Zone A3	0.063	0.002	0.002	100%		NA
Fig 1 (27)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (28)	Doubler Zone A3	0.063	0.002	0.002	100%		NA
Fig 1 (29)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA

Table 1. Negligible Damage Limits (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (30)	Cover Zone A1	0.025	0.001	0.001	100%		NA
Fig 1 (31)	Skin Zone A3	0.080	0.002	0.002	100%		10%
	Zone B3	0.032	0.0006	0.0006	100%		NA
	Zone B3	0.060	0.0006	0.0006	100%		NA
Fig 1 (34)	Doubler Zone A3	0.032	0.002	0.002	100%		10%
Fig 1 (35)	Strap Zone A1	0.090	0.002	0.002	100%		NA
Fig 1 (36)	Strap Zone B1	0.025	0.0006	0.0006	100%	0.010	33%
	Zone B1	0.063	0.0006	0.0006	100%	0.030	33%
Fig 1 (38)	Strap Zone B1	0.025	0.0006	0.0006	100%	0.010	33%
	Zone B1	0.063	0.0006	0.0006	100%	0.030	33%
Fig 1 (40)	Strap Zone B1	0.025	0.0006	0.0006	100%	0.010	33%
	Zone B1	0.063	0.0006	0.0006	100%	0.030	33%
Fig 1 (41)	Door 166 Zone A1	0.080	0.002	0.002	100%		
	Zone A1	0.016	0.001	0.001	100%	0.004	
	Zone A1	0.030	0.001	0.001	100%	0.008	
	Zone A1 Tapered 0.080 to 0.020		0.002	0.002	100%		
Fig 1 (42)	Hinge Half Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (44)	Hinge Half Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (45)	Fairing Zone A1	0.016	0.001	0.001	100%	0.004	
	Zone A1	0.032	0.002	0.002	100%	0.008	
	Zone A1	0.055	0.002	0.002	100%		
	Zone A1	0.080	0.002	0.002	100%		
	Zone A1 Tapered 0.080 to 0.020		0.002	0.002	100%		
Fig 1 (46)	Retainer Zone A1	0.032	0.002	0.002	100%		

Table 1. Negligible Damage Limits (Continued)


































Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (47)	Fairing Zone A1	0.016	0.001	0.001	100%	0.004	
	Zone A1	0.032	0.002	0.002	100%	0.008	
	Zone A1	0.055	0.002	0.002	100%		
	Zone A1	0.080	0.002	0.002	100%		
	Zone A1	Tapered 0.080 to 0.020	0.002	0.002	100%		
Fig 1 (48)	Fairing Zone A1	0.016	0.001	0.001	100%	0.004	
	Zone A1	0.032	0.002	0.002	100%	0.008	
	Zone A1	0.055	0.002	0.002	100%		
	Zone A1	0.080	0.002	0.002	100%		
	Zone A1	Tapered 0.080 to 0.020	0.002	0.002	100%		
Fig 1 (49)	Hinge Half Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (51)	Hinge Half Zone A1	0.080	0.002	0.002	100%		NA
Fig 1 (52)	Door 167 Zone A1	0.016	0.001	0.001	100%	0.004	
	Zone A1	0.032	0.002	0.002	100%	0.008	
	Zone A1	0.080	0.002	0.002	100%		
	Zone A1	Tapered 0.080 to 0.020	0.002	0.002	100%		
Fig 1 (53)	Fairing Zone A1	0.040	0.002	0.002	100%		
Fig 1 (54)	Retainer Zone A1	0.063	0.002	0.002	100%		
Fig 1 (55)	Fairing Zone A1	0.040	0.002	0.002	100%		
Fig 1 (56)	Former Zone B2	All	0.0006	0.0006	100%		NA
	Zone C4	All	0.0006	0.0006	100%		NA
Fig 1 (57)	Stringer Zone B3	0.090	0.0006	0.0006	100%		NA

Table 1. Negligible Damage Limits (Continued)




















Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (58)	Stringer Zone B3	0.078	0.0006	0.0006	100%		NA
Fig 1 (59)	Former Zone B3 Zone C3	All	0.0006	0.0006	100%		NA
		All	0.0006	0.0006	100%		NA
Fig 1 (60)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (61)	Intercostal Zone A3	0.071	0.002	0.002	100%		NA
Fig 1 (65)	Former Zone B3	0.050	0.0006	0.0006	100%		NA
Fig 1 (66)	Stringer Zone B3	0.078	0.0006	0.0006	100%		NA
Fig 1 (67)	Stringer Zone B3	0.078	0.0006	0.0006	100%		NA
Fig 1 (68)	Former Zone B3	0.050	0.0006	0.0006	100%		NA
Fig 1 (69)	Stringer Zone B3	0.078	0.0006	0.0006	100%		NA
Fig 1 (70)	Former Zone B3	0.050	0.0006	0.0006	100%		NA
Fig 1 (71)	Former Zone B3	All	0.0006	0.0006	100%		NA
Fig 1 (72)	Stringer Zone B3	0.078	0.0006	0.0006	100%		NA
Fig 1 (73)	Stringer Zone B3	0.078	0.0006	0.0006	100%		NA
Fig 1 (75)	Angle Zone B3	0.050	0.0006	0.0006	100%		NA
Fig 1 (76)	Former Zone B3	0.050	0.0006	0.0006	100%		NA
Fig 1 (77)	Cap Zone B3	All	0.0006	0.0006	100%		NA
Fig 1 (78)	Support Zone B3	0.050	0.0006	0.006	100%		NA
Fig 1 (79)	Bracket Zone A3	0.050	0.002	0.002	100%		NA

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (8)	Former Zone B3	0.050	0.005	0.005	0.005	25%	0.005	25%
Fig 1 (9)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (10)	Strap Zone A1	0.090	0.009	0.018	0.018	100%	0.018	100%
Fig 1 (12)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (13)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (14)	Former Zone A3 Zone B3	0.071	0.007	0.014	0.014	100%	0.014	100%
		0.071	0.007	0.014	0.014	25%	0.014	25%
Fig 1 (17)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (18)	Former Zone A3	0.063	0.006	0.013	0.013	100%	0.013	100%
Fig 1 (19)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (20)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (21)	Ramp Zone A3	0.025	0.002	0.005	0.005	100%	0.005	100%
Fig 1 (22)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (23)	Former Zone A3 Zone B3	0.090	0.009	0.018	0.018	100%	0.018	100%
		0.090	0.009	0.018	0.018	25%	0.018	25%
Fig 1 (25)	Former Zone A3 Zone B3	0.071	0.007	0.014	0.014	100%	0.014	100%
		0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (26)	Doubler Zone A3	0.063	0.006	0.012	0.012	100%	0.012	100%
Fig 1 (27)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (28)	Doubler Zone A3	0.063	0.006	0.012	0.012	100%	0.012	100%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (29)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (30)	Cover Zone A1	0.025	0.002	0.005	0.005	100%	0.005	100%
Fig 1 (31)	Skin Zone A3	0.080	0.080	0.016	0.016	100%	0.016	100%
	Zone B3	0.032	NA	0.006	0.006	25%	0.006	25%
	Zone B3	0.060	0.006	0.012	0.012	25%	0.012	25%
Fig 1 (34)	Doubler Zone A3	0.032	0.003	0.006	0.006	100%	0.006	100%
Fig 1 (35)	Strap Zone A1	0.090	0.009	0.018	0.018	100%	0.018	100%
Fig 1 (36)	Strap Zone B1	0.025	0.005	0.005	100%	0.005	100%	-
	Zone B1	0.063	0.012	0.0012	100%	0.012	100%	-
Fig 1 (38)	Strap Zone B1	0.025	0.005	0.005	100%	0.005	100%	-
	Zone B1	0.063	0.012	0.012	100%	0.012	100%	-
Fig 1 (40)	Strap Zone B1	0.025	0.005	0.005	100%	0.005	100%	-
	Zone B1	0.063	0.012	0.012	100%	0.012	100%	-
Fig 1 (41)	Door 166 Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
	Zone A1	0.016	NA	0.003	0.003	100%	0.003	100%
	Zone A1	0.030	NA	0.006	0.006	100%	0.006	100%
	Zone A1	Tapered 0.080 to 0.020	0.002	0.004	0.004	100%	0.004	100%
Fig 1 (42)	Hinge Half Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
Fig 1 (44)	Hinge Half Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
Fig 1 (45)	Fairing Zone A1	0.016	NA	0.003	0.003	100%	0.003	25%
	Zone A1	0.032	NA	0.006	0.006	100%	0.006	25%
	Zone A1	0.055	0.006	0.011	0.011	100%	0.011	100%
	Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
	Zone A1	Tapered 0.080 to 0.020	0.002	0.004	0.004	100%	0.004	100%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (46)	Retainer Zone A1	0.032	0.003	0.012	0.012	25%	0.012	25%
Fig 1 (47)	Fairing Zone A1	0.016	NA	0.003	0.003	100%	0.003	25%
	Zone A1	0.032	NA	0.006	0.006	100%	0.006	25%
	Zone A1	0.055	0.006	0.011	0.011	100%	0.011	100%
	Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
	Zone A1	Tapered 0.080 to 0.020	0.0002	0.004	0.004	100%	0.004	100%
Fig 1 (48)	Fairing Zone A1	0.016	NA	0.003	0.003	100%	0.003	25%
	Zone A1	0.032	NA	0.006	0.006	100%	0.006	25%
	Zone A1	0.055	0.006	0.011	0.011	100%	0.011	100%
	Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
	Zone A1	Tapered 0.080 to 0.020	0.002	0.004	0.004	100%	0.004	100%
Fig 1 (49)	Hinge Half Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
Fig 1 (51)	Hinge Half Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
Fig 1 (52)	Door 167 Zone A1	0.016	NA	0.003	0.003	100%	0.003	25%
	Zone A1	0.032	NA	0.006	0.006	100%	0.006	25%
	Zone A1	0.080	0.008	0.016	0.016	100%	0.016	100%
	Zone A1	Tapered 0.080 to 0.020	0.002	0.004	0.004	100%	0.004	100%
Fig 1 (53)	Fairing Zone A1	0.040	0.004	0.008	0.008	100%	0.008	25%
Fig 1 (54)	Retainer Zone A1	0.063	0.006	0.012	0.012	25%	0.012	25%
Fig 1 (55)	Fairing Zone A1	0.040	0.004	0.008	0.008	100%	0.008	25%
Fig 1 (56) 1 2 3 4 5 6 7 8	Former Zone B2	All	0.003	0.012	0.012	100%	0.012	100%
	Zone B1	All	NA	0.012	0.012	40%	0.012	40%
	Zone C4	All	0.005	0.005	0.005	30%	0.005	30%
	Zone B1	0.100	0.005	0.020	0.020	100%	0.020	100%
	Zone C4	0.130	0.007	0.007	0.007	30%	0.007	30%
	Zone B2	0.230	0.012	0.012	0.012	30%	0.012	30%
	Zone C4	0.770	0.039	0.039	0.039	30%	0.039	30%
	Zone B2	0.930	0.047	0.047	0.047	30%	0.047	30%

Table 2. Repairable Damage Limits After Blending (Continued)

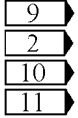
Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (57)	Stringer Zone B3	0.090	0.009	0.018	0.018	60%	0.018	60%
Fig 1 (58)	Stringer Zone B3	0.078	0.008	0.016	0.016	100%	0.016	100%
Fig 1 (59) 	Former Zone B3	All	0.006	0.012	0.012	30%	0.012	30%
	Zone B3	All	NA	0.012	0.012	40%	0.012	40%
	Zone C3	0.250	0.006	0.013	0.013	100%	0.013	100%
	Zone C3	0.870	0.020	0.040	0.040	20%	0.040	20%
Fig 1 (60)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (61)	Intercostal Zone A3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (65)	Former Zone B3	0.050	0.005	0.010	0.010	40%	0.010	40%
Fig 1 (66)	Stringer Zone B3	0.078	0.008	0.016	0.016	25%	0.016	25%
Fig 1 (67)	Stringer Zone B3	0.078	0.008	0.016	0.016	100%	0.016	100%
Fig 1 (68)	Former Zone B3	0.050	0.005	0.010	0.010	40%	0.010	40%
Fig 1 (69)	Stringer Zone B3	0.078	0.008	0.016	0.016	25%	0.016	25%
Fig 1 (70)	Former Zone B3	0.050	0.005	0.010	0.010	40%	0.010	40%
Fig 1 (71)	Former Zone B3	All	0.013	0.025	0.025	25%	0.025	25%
Fig 1 (72)	Stringer Zone B3	0.078	0.008	0.016	0.016	25%	0.016	25%
Fig 1 (73)	Stringer Zone B3	0.078	0.008	0.016	0.016	25%	0.016	25%
Fig 1 (75)	Angle Zone B3	0.050	0.005	0.010	0.010	100%	0.010	100%
Fig 1 (76)	Former Zone B3	0.050	0.005	0.010	0.010	40%	0.010	40%
Fig 1 (77)	Cap Zone B3	All	0.011	0.022	0.022	100%	0.022	100%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (78)	Support Zone B3	0.050	0.005	0.010	0.010	50%	0.010	50%
Fig 1 (79)	Bracket Zone A3	0.050	0.005	0.010	0.010	100%	0.010	100%
Fig 1 (83)	Stringer Zone B3	0.090	0.009	0.018	0.018	60%	0.018	60%
Fig 1 (84)	Stringer Zone B3	0.090	0.009	0.018	0.018	60%	0.018	60%
Fig 1 (85)	Bracket Zone A3	0.050	0.005	0.010	0.010	100%	0.010	100%
Fig 1 (86)	Former Zone B3	All	0.013	0.025	0.025	25%	0.025	25%
Fig 1 (88)	Skin							
	Zone A3	0.040	NA	0.008	0.008	25%	0.008	25%
	Zone A3	0.050	NA	0.010	0.010	25%	0.010	25%
	Zone A3	0.060	NA	0.012	0.012	25%	0.012	25%
	Zone A3	0.070	NA	0.014	0.014	25%	0.014	25%
	Zone A3	0.100	0.010	0.020	0.020	100%	0.020	100%
	Zone B3	0.040	NA	0.008	0.008	25%	0.008	25%
	Zone B3	0.050	NA	0.010	0.010	25%	0.010	25%
	Zone B3	0.060	NA	0.012	0.012	25%	0.012	25%
	Zone B3	0.070	NA	0.014	0.014	25%	0.014	25%
	Zone B3	0.080	0.008	0.016	0.016	100%	0.016	100%
	Zone B3	0.100	0.010	0.020	0.020	100%	0.020	100%
	Zone B3	0.125	0.013	0.025	0.025	100%	0.025	100%
Fig 1 (92)	Plate Zone B3	0.063	0.006	0.012	0.012	100%	0.012	100%
Fig 1 (95)	Cover Zone A3	0.050	0.005	0.010	0.010	100%	0.010	100%
Fig 1 (96)	Intercostal Zone B3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (97)	Intercostal Zone B3	0.071	0.007	0.014	0.014	100%	0.014	100%
Fig 1 (102)	Door 134							
	Zone A1	0.030	0.003	0.006	0.006	100%	0.006	100%
	Zone A1	0.040	0.004	0.008	0.008	100%	0.008	100%
	Zone A1	0.071	0.007	0.014	0.014	100%	0.014	100%

Table 2. Repairable Damage Limits After Blending (Continued)

Fig No Idx No	Nomen/ Repair Zone	Thickness	Edge Nicks Depth	Scratch Depth	Nicks Gouges		Corrosion	
					Depth	Area	Depth	Area
Fig 1 (103)	Door 131							
	Zone A1	0.030	0.003	0.006	0.006	100%	0.006	100%
	Zone A1	0.040	0.004	0.008	0.008	100%	0.008	100%
	Zone A1	0.071	0.007	0.014	0.014	100%	0.014	100%

NOTES

- 1 Lower flange.
- 2 All web areas.
- 3 Upper flange.
- 4 All vertical flanges.
- 5 Inboard lug.
- 6 Outboard lug.
- 7 Area outboard of inboard lug.
- 8 Area inboard of outboard lug.
- 9 All flanges.
- 10 Inboard and outboard lugs.
- 11 Area inboard and outboard of the outboard and inboard lug respectively.

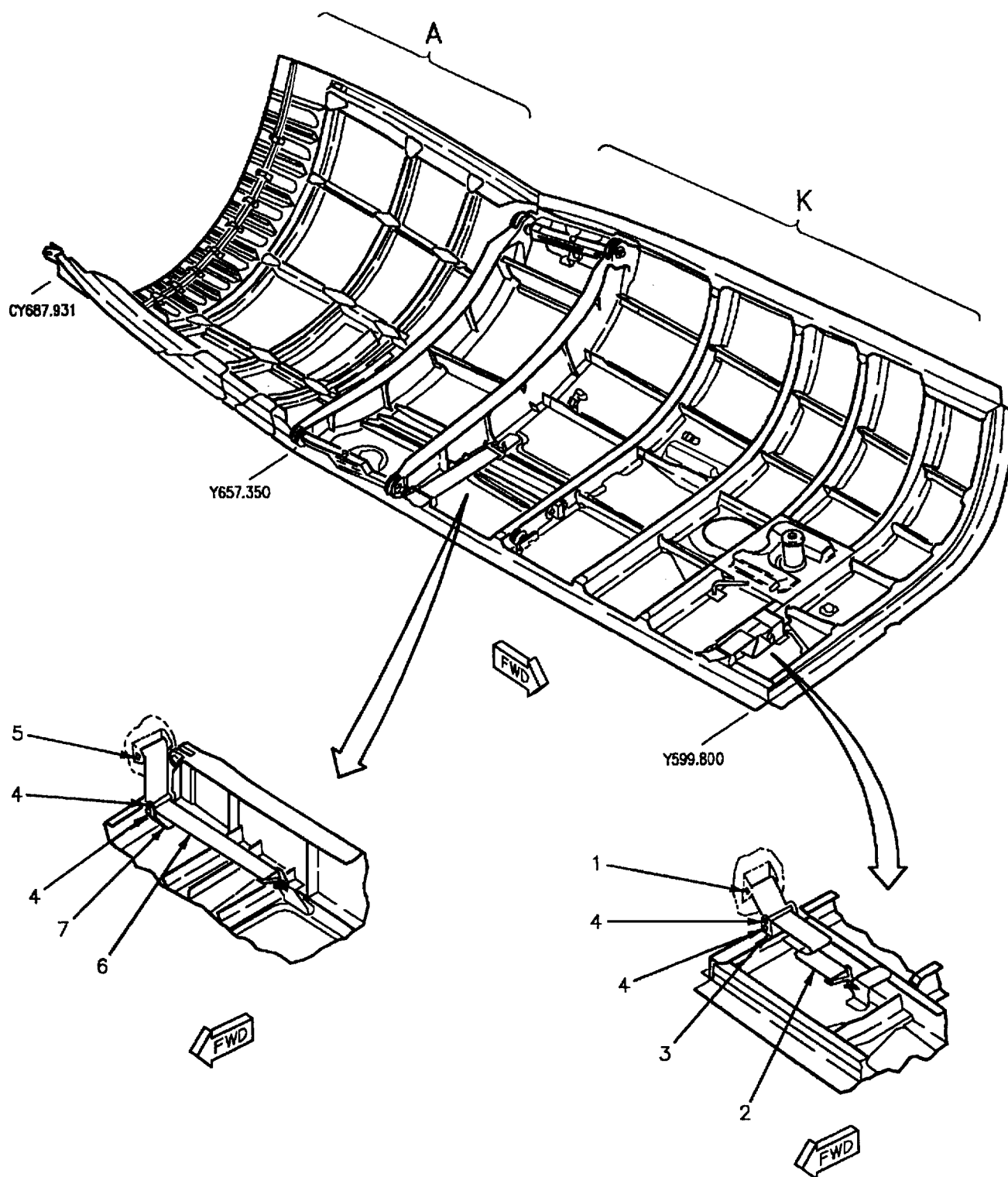


Figure 1. Material Index (Sheet 1)

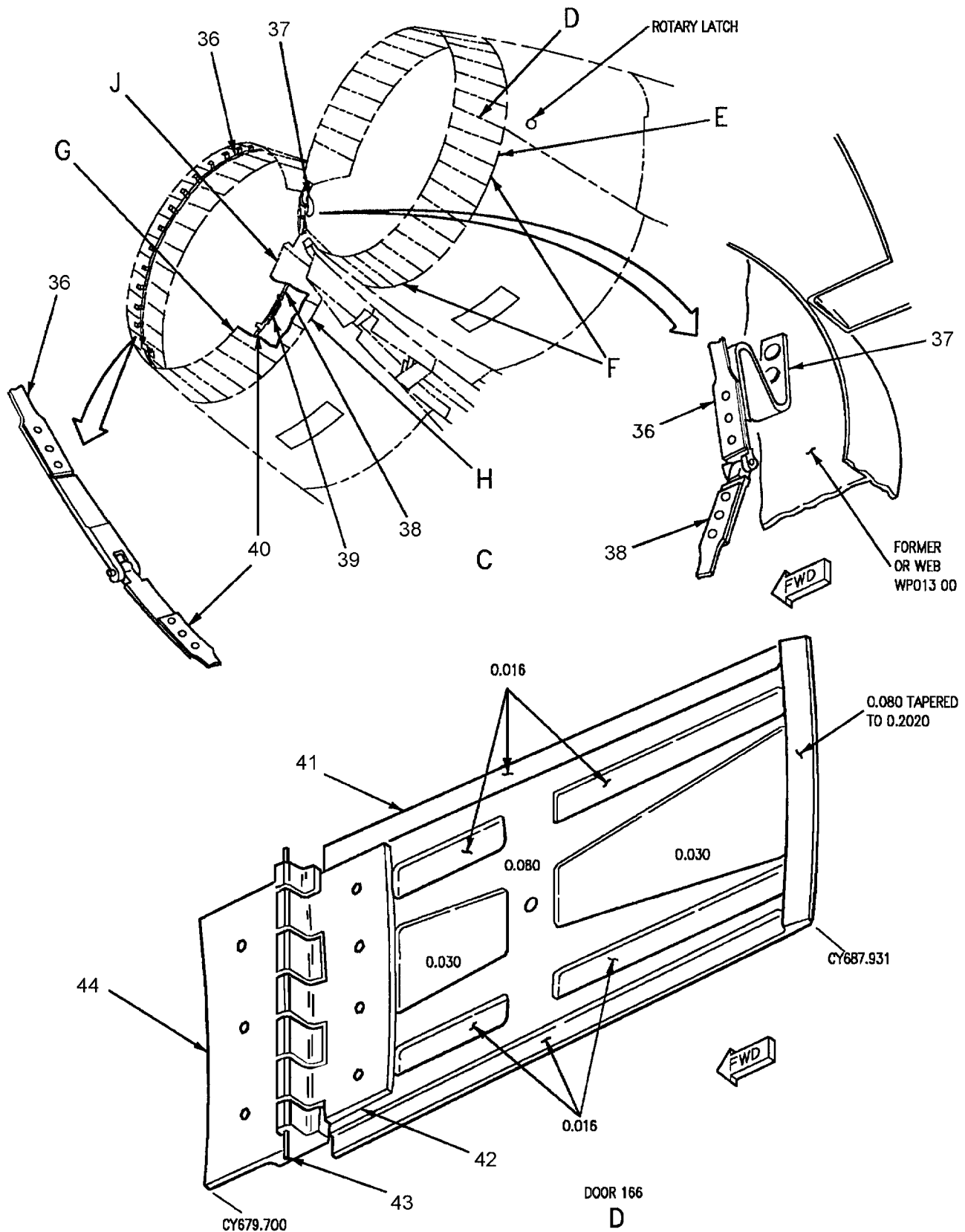


Figure 1. Material Index (Sheet 3)

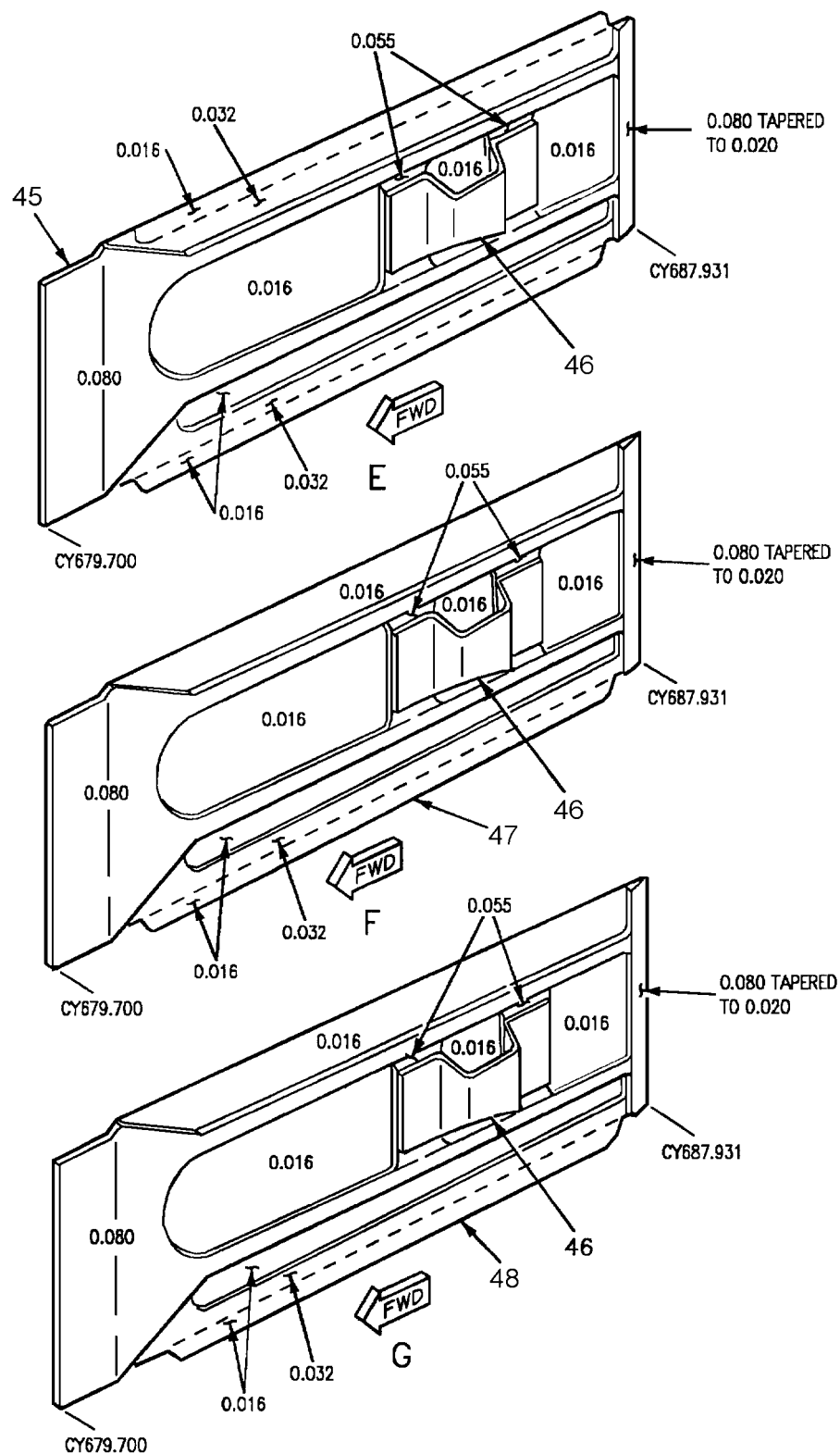


Figure 1. Material Index (Sheet 4)

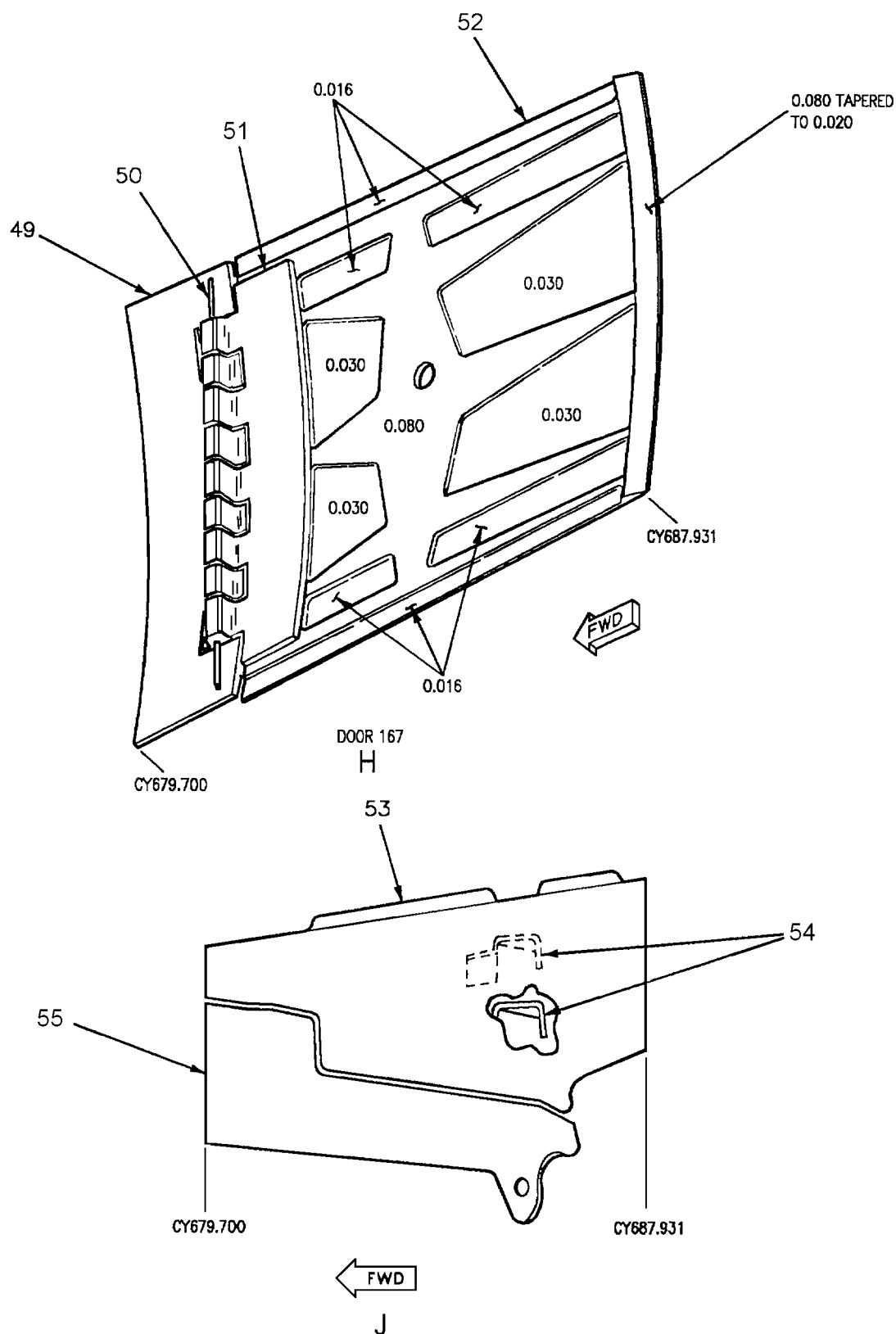
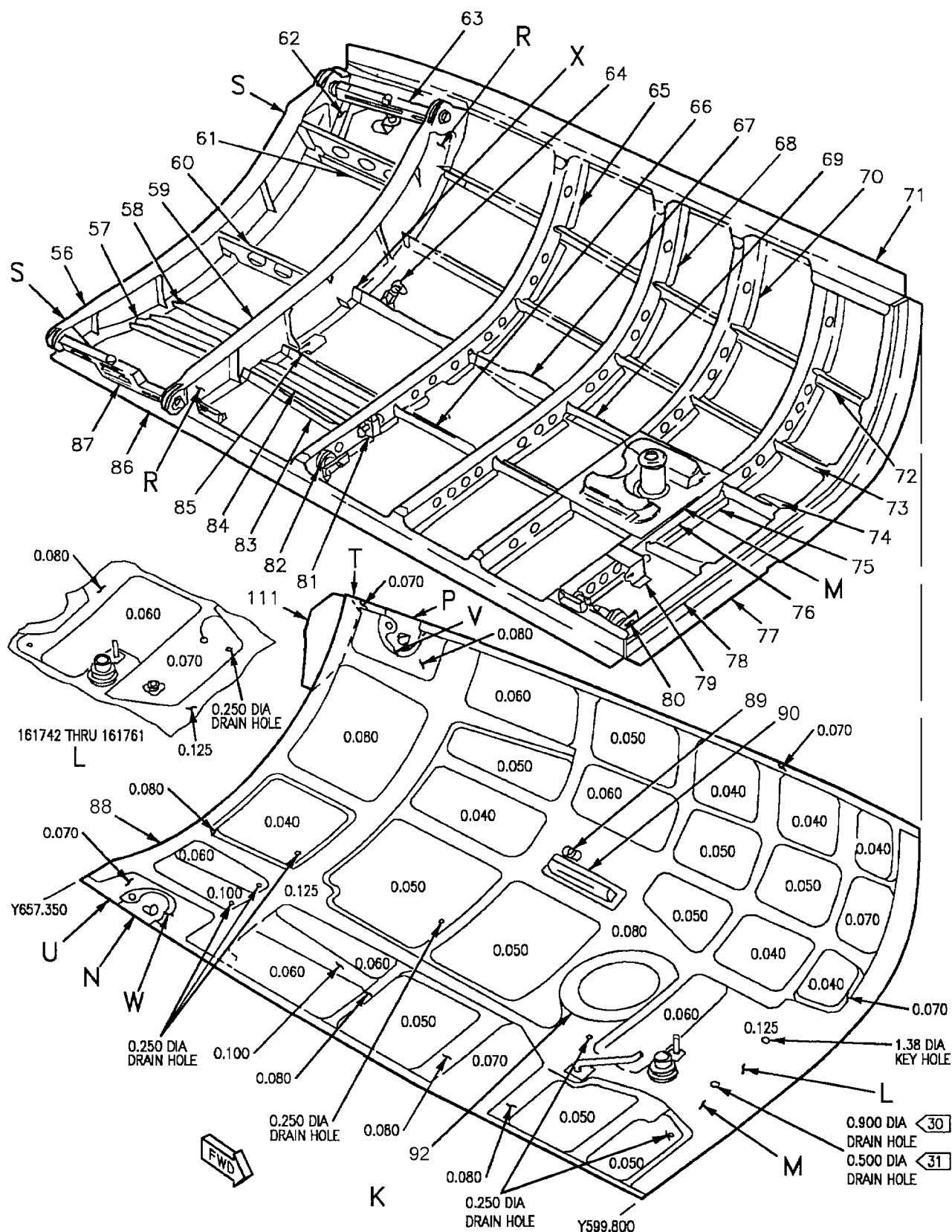


Figure 1. Material Index (Sheet 5)



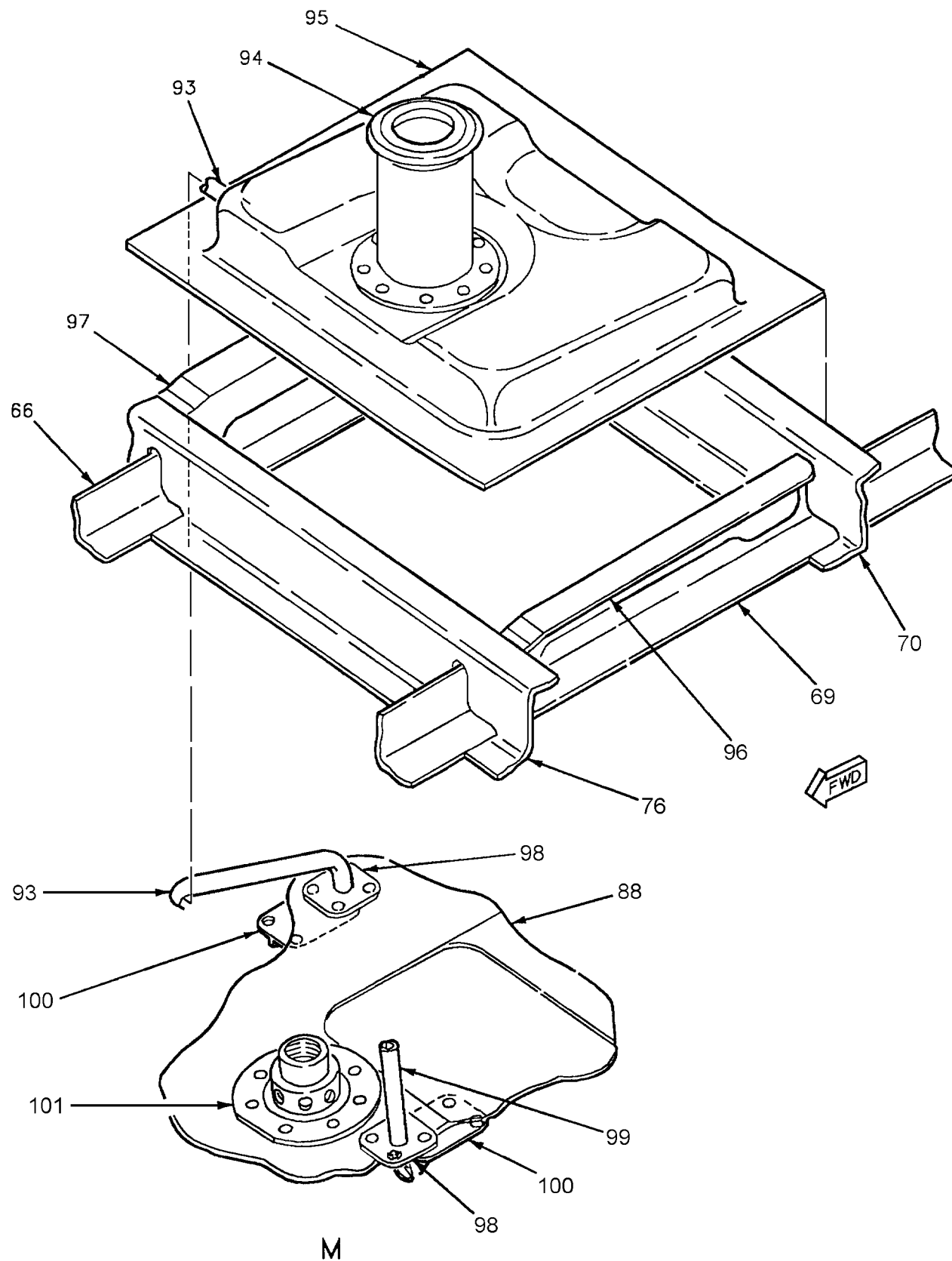


Figure 1. Material Index (Sheet 7)

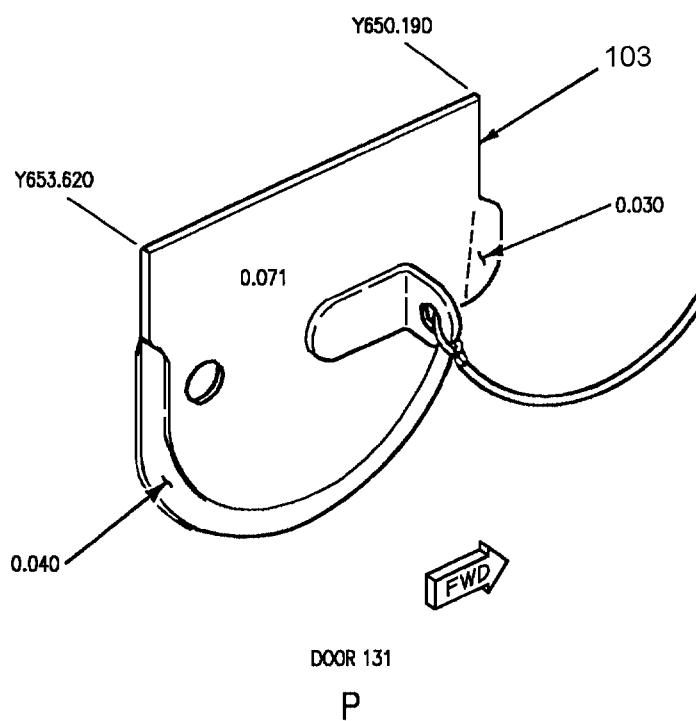
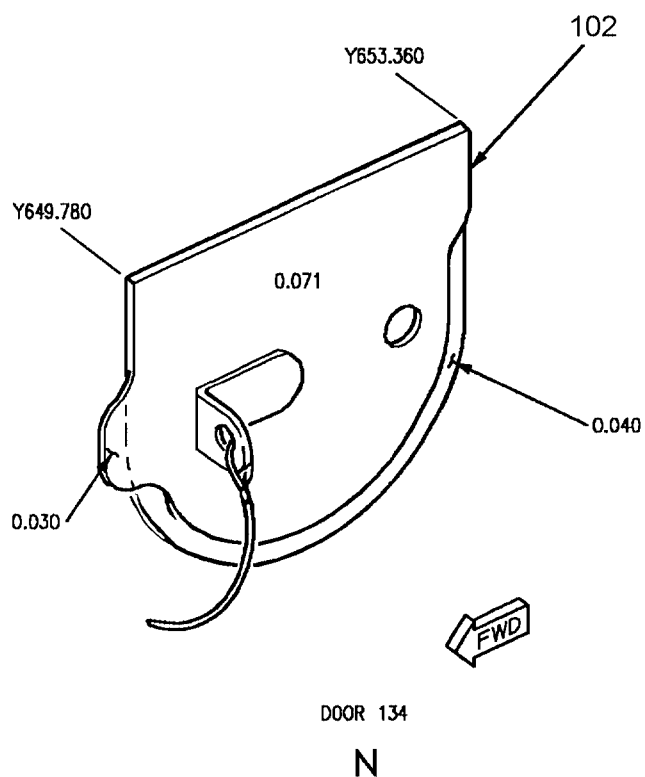


Figure 1. Material Index (Sheet 8)

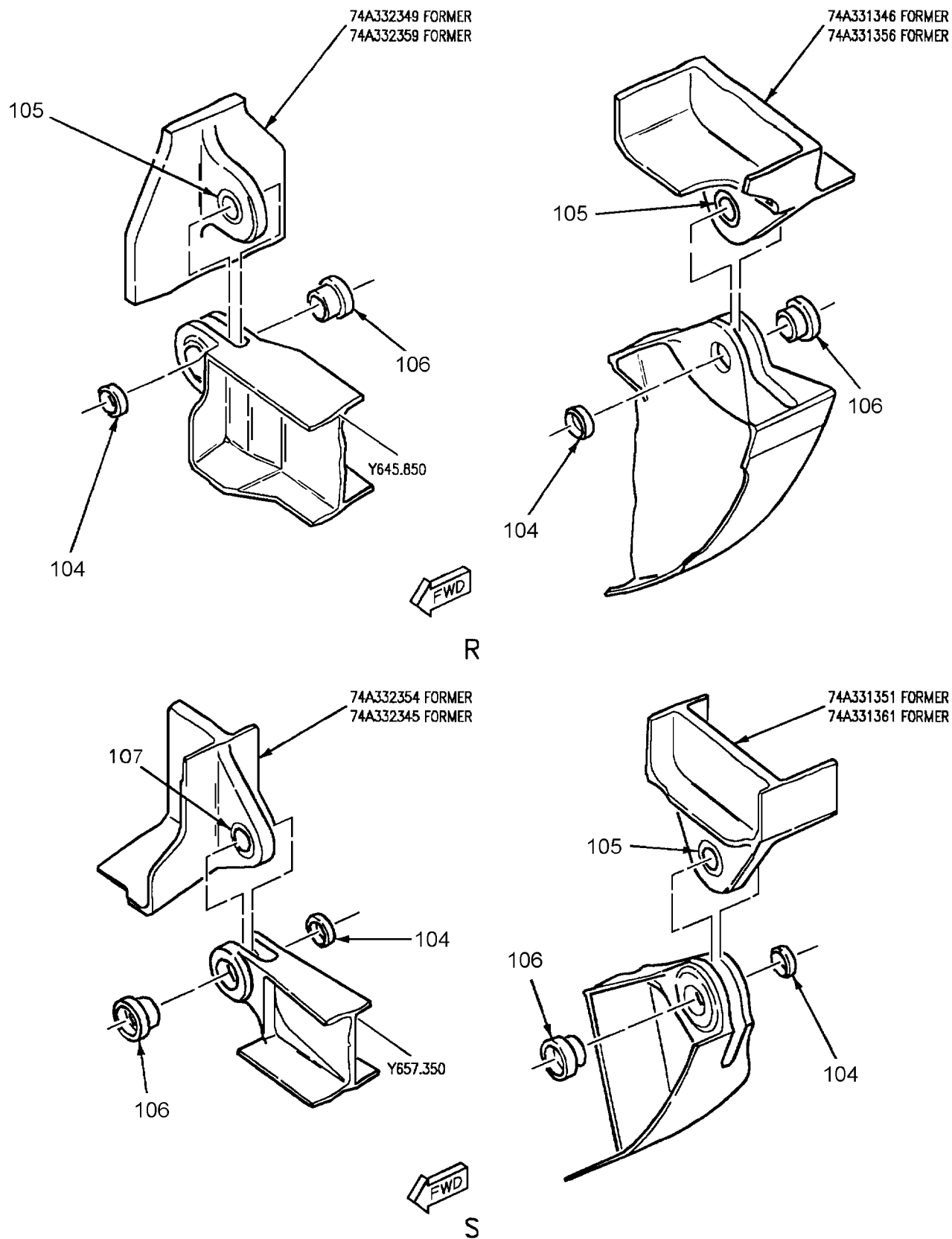
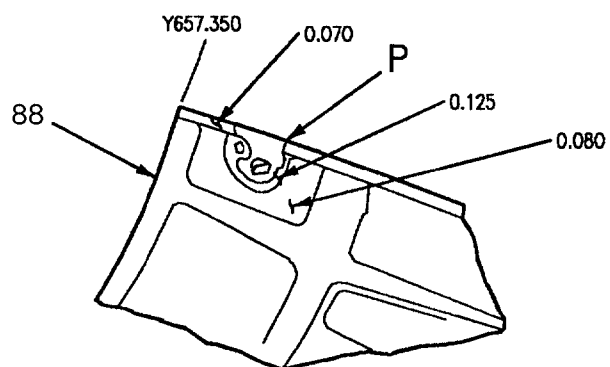
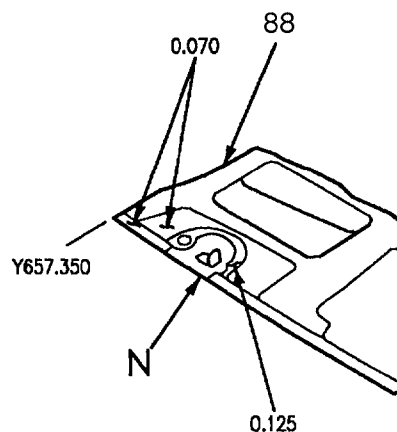


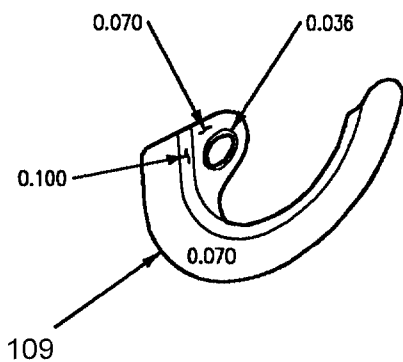
Figure 1. Material Index (Sheet 9)



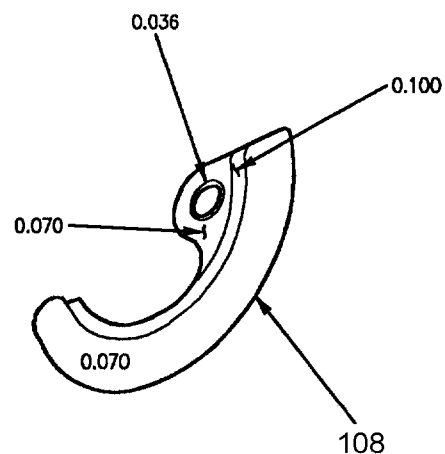
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U



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V



Figure 1. Material Index (Sheet 10)

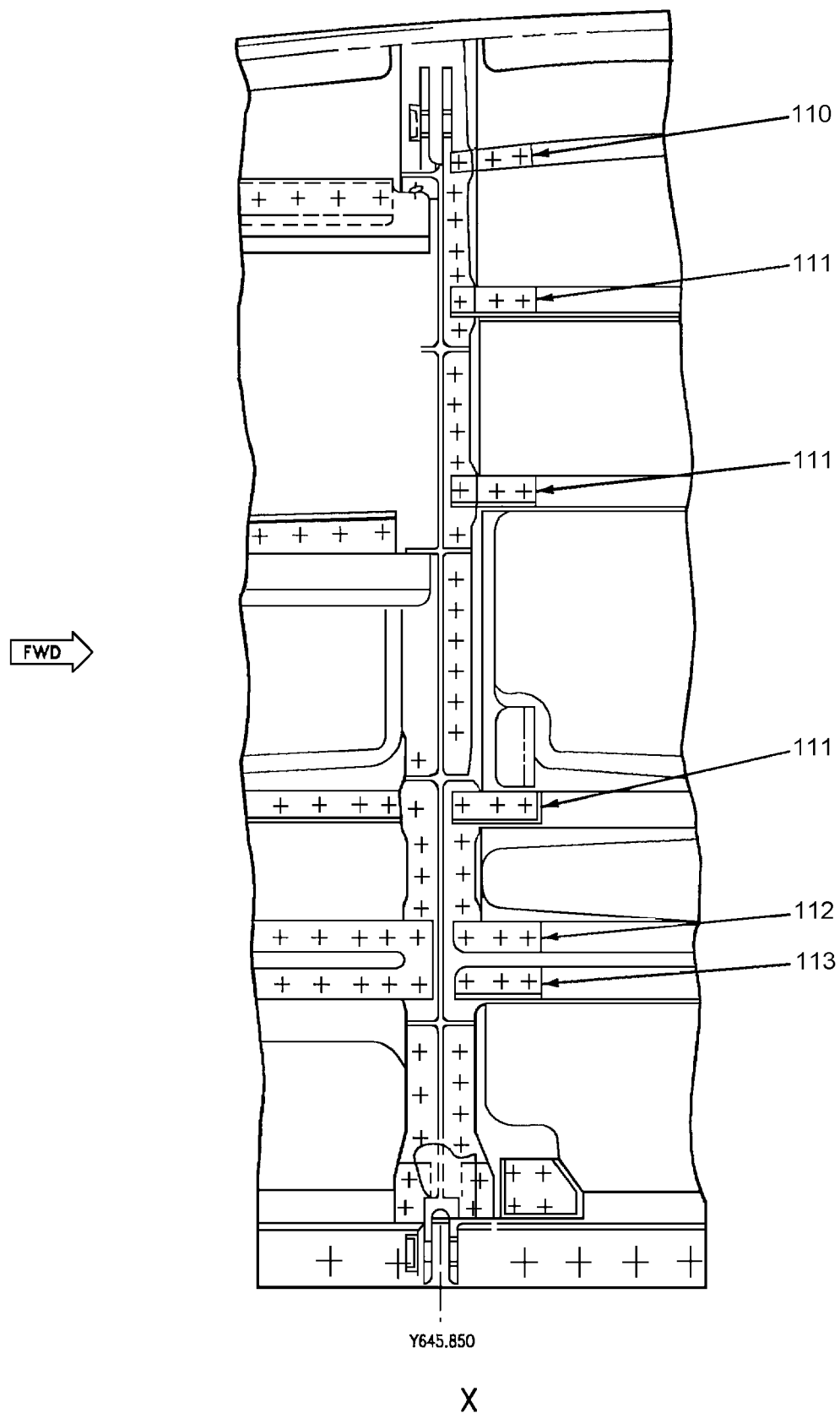


Figure 1. Material Index (Sheet 11)












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1		Pin 3M39C3-81 	0.248 Dia	A286 Cres Steel
2		Strap, Flexible 1108334-03	2.00 Webbing	Aramid 
3		Bracket 74A331620-2033	0.080 Sheet	7075-T62 Al Aly
4		Pin 3M39C3-81 	0.248 Dia	A286 Cres Steel
5		Pin 3M39C3-87 	0.248 Dia	A286 Cres Steel
6		Strap, Flexible 1108334-01	2.00 Webbing	Aramid 
7		Bracket 74A331620-2035, -2036	0.080 Sheet	7075-T62 Al Aly
8		Former 74A330684-2003, -2004	1MA10507D01 Extr	7075-T76 Al Aly
9		Intercostal 74A330687-2011, -2012	0.071 Sheet	2024-T72 Al Aly
10	   	Strap 74A330845-2009, -2010 74A330845-9005, -9006 74A330845-2013, -2014 74A330845-2015, -2016	0.090 Sheet	6Al-4V Ti Anl
11		Latch Assembly H2761-1	-	-
12		Intercostal 74A330687-2017, -2018	0.071 Sheet	2024-T72 Al Aly
13		Intercostal 74A330687-2015, -2016	0.071 Sheet	2024-T72 Al Aly
14		Former 74A330635-2009, -2010	0.071 Sheet	2024-T72 Al Aly
15		Spacer, Tapered 74A093545-2015, -2016	0.040 - 0.120 Tapered Sheet	7075-T6 Al Aly
16		Bracket 74A093545-2005, -2006	1MA160D05-10115 Extr	7075-T73511 Al Aly
17		Intercostal 74A330687-2047, -2048	0.071 Sheet	2024-T72 Al Aly
18		Former 74A330683-2007, -2008	0.063 Sheet	7076-T62 Al Aly
19		Intercostal 74A330687-2039, -2040	0.071 Sheet	2024-T72 Al Aly

Figure 1. Material Index (Sheet 12)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
20		Intercostal 74A330687-2045, -2046	0.071 Sheet	2024-T72 Al Aly
21		Ramp 74A330689-2005, -2006	0.025 Sheet	2024-T72 Alclad
22		Intercostal 74A330687-2043, -2044	0.071 Sheet	2024-T72 Al Aly
23	<div>12</div> <div>24</div> <div>25</div> <div>37</div> <div>35</div> <div>38</div>	Former 74A330616-9035, -9036 74A330682-9001, -9002 74A330682-2013 74A330682-2014 74A330682-2015 74A330682-2016	0.090 Sheet 0.063 Sheet	7075-T62 Al Aly
24	<div>35</div> <div>38</div>	Doubler 74A330682-2017 74A330682-2018	0.040 Sheet	7075-T62 Al Aly
25		Former 74A330696-2015, -2016	0.071 Sheet	2024-T72 Al Aly
26		Doubler 74A330696-2009, -2010	0.063 Sheet	2024-T72 Al Aly
27	<div>12</div> <div>13</div>	Intercostal 74A330687-2035, -2036 74A330687-2049, -2050	0.071 Sheet	2024-T72 Al Aly
28		Doubler 74A330696-2011, -2012	0.063 Sheet	2024-T72 Al Aly
29		Intercostal 74A330687-2043, -2044	0.071 Sheet	2024-T72 Al Aly
30	<div>4</div> <div>5</div>	Cover 74A330866-2007 74A330866-2011	0.025 Perforated Sheet	302 Cres Anl 6Al-4V Ti Anl
31	<div>14</div> <div>15</div> <div>28</div> <div>29</div>	Skin 74A330701-2011, -2012 74A330701-2013, -2014 74A330701-2015, -2016 74A330701-2017, -2018	Sheet	7075-T62 Alclad
32		Receiver RI2681-2	0.050 Plate	Cres
33		Holder A2847-2	Assembly	7075-T73511 Al Aly

Figure 1. Material Index (Sheet 13)













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34		Doubler 74A330690-2001, -2002	0.032 Sheet	6Al-4V Ti Anl
35	  	Strap 74A330845-2005, -2006 74A330845-9003, -9004 74A330845-2011, -2012	0.090 Sheet	6Al-4V Ti Anl
36		Strap Assembly 74A330833-2009		6Al-4V Ti Anl
37	 	Spring 74A330847-2001 74A330847-2005	0.020 Sheet	17-7PH Cres
38		Strap Assembly 74A330833-2011		6Al-4V Ti Anl
39		Latch Assembly H2768-11, -12	-	6Al-4V Ti Anl
40		Strap Assembly 74A330833-1009, -1010		6Al-4V Ti Anl
41		Door 166 74A330837-2005	Sheet	6Al-4V Ti Anl
42		Hinge Half 74A330839-2001	Machined Bar	6Al-4V Ti Anl
43		Hinge Pin 74A330830-2007	MS20253-2-275 0.089 Dia Wire	Cres
44		Hinge Half 74A330838-2001	Machined Bar	6Al-4V Ti Anl
45		Fairing Segment 74A330832-2003, -2004	Sheet	6Al-4V Ti Anl
46	 	Retainer 74A330836-2001 74A330836-2007	0.032 Sheet	6Al-4V Ti Anl
47		Fairing Segment 74A330832-2001, -2002	Sheet	6Al-4V Ti Anl
48		Fairing Segment 74A330832-2007, -2008	Sheet	6Al-4V Ti Anl
49	 	Hinge Half 74A330840-2001 74A330840-2003	Machined Bar	6Al-4V Ti Anl

Figure 1. Material Index (Sheet 14)












Idx No.	Eft	Nomenclature and Part No.	Description	Material
50		Hinge Pin 74A330830-2005	MS20253-2-418 0.089 Dia Wire	Cres
51		Hinge Half 74A330841-2001	Machined Bar	6Al-4V Ti Anl
52	 	Door 167 74A330837-2007, -2008 74A330837-2009, -2010	Sheet	6Al-4V Ti Anl
53		Fairing 74A330835-2013, -2014	0.040 Sheet	6Al-4V Ti Anl
54		Retainer 74A330836-2005	0.063 Sheet	Cres
55	 	Fairing 74A330835-2017, -2015 74A330835-2023, -2021	0.040 Sheet	6Al-4V Ti Anl
56	 	Former 74A331679-2005, -2006 74A331679-2009, -2010	Hand Forging	7049-T7352 Al Aly
57	 	Stringer 74A331622-2033, -2034 74A331622-2029, -2030	0.090 Sheet	7075-T76 Alclad
58	 	Stringer 74A331632-2013, -2014 74A331632-2023, -2024	1MA100D01-10360 Extr	7075-T76 Al Aly
59		Former 74A331638-2011, -2012	Die Forging	6Al-4V Ti Anl
60		Intercostal 74A330642-2011, -2012	0.071 Sheet	7075-T62 Al Aly
61		Intercostal 74A330642-2009, -2010	0.071 Sheet	7075-T62 Al Aly
62		Doubler 74A093545-2021, -2022	0.125 Sheet	7075-T6 Al Aly
63		Lockset Assembly A2791-13, -14	-	-
64 L R		Support Assembly 74A501333-1003 74A501333-1005	-	-

Figure 1. Material Index (Sheet 15)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
65		Former 74A331629-2005, -2006	0.050 Sheet	7075-T62 Alclad
66		Stringer 74A331632-2017, -2018	1MA100D01-10360 Extr	7075-T76 Al Aly
67 R	18	Stringer 74A331633-2005	1MA180D01-10155 Extr	7075-T76 Al Aly
68		Former 74A331624-2005, -2006	0.050 Sheet	7075-T62 Alclad
69	6 7 17	Stringer 74A331633-2011, -2012 74A331633-2011, -9001 74A331633-2011, -2013	1MA100D01-10360 Extr	7075-T76 Al Aly
70		Former 74A331628-2005, -2006	0.050 Sheet	7075-T62 Alclad
71	31 30	Former 74A331631-2003, -2004 74A331631-2005, -2006	1MA10388-D01 Extr	7075-T76 Al Aly
72	19 20	Stringer 74A331637-2007, -2008 74A331637-2011, -2012	1MA100D01-10360 Extr	7075-T76 Al Aly
73	19 20	Stringer 74A331636-2007, -2008 74A331636-2011, -2012	1MA100D01-10360 Extr	7075-T76 Al Aly
74		Bracket 74A331640-2011, -2012	1MA100D01-10360 Extr	7075-T76 Al Aly
75	5	Angle 74A331627-9005, -9006	0.050 Sheet	7075-T62 Alclad
76	4 21 32 33 10	Former 74A331627-9001, -9002 74A331627-9003, -9004 74A331627-2009, -2010 74A331627-2011, -2012 74A331627-2013, -2014	0.050 Sheet	7075-T62 Alclad
77		Cap 74A331626-2009, -2010	1MA160D01-10470 Extr	7075-T76 Al Aly
78		Support 74A331626-2011, -2012	0.050 Sheet	7075-T62 Al Aly
79		Bracket 74A330667-2001, -2002	0.050 Sheet	17-4PH or 301 Cres

Figure 1. Material Index (Sheet 16)


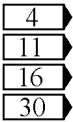


Idx No.	Eft	Nomenclature and Part No.	Description	Material
80 L R		Pin Assembly 74A330612-1001 74A330612-1005	-	-
81		Support Assembly 74A501333-1001	-	-
82 L R		Pin Assembly 74A330612-1009 74A330612-1011	-	-
83		Stringer 74A331622-2025, -2026	0.090 Sheet	7075-T76 Alclad
84		Stringer 74A331622-2019, -2020	0.090 Sheet	7075-T76 Alclad
85		Bracket 74A330667-2003, -2004	0.050 Sheet	17-4PH or 301 Cres
86		Former 74A331630-2003, -2004 74A331630-2005, -2006	1MA10388-D01 Extr	7075-T76 Al Aly
87		Lockset Assembly A2791-15, -16	-	-
88		Skin 74A330622-9007, -9008 74A330622-2023, -2024 74A330622-2025, -2026 74A330622-2027, -2028	Sheet	7075-T76 Alclad
89		Receiver RI2681-3	0.50 Plate	Cres
90		Holder A2847-3	Assembly	7075-T73511 Al Aly
91		Deflector 74A330638-2001	Machined Bar	7075-T73511 Al Aly
92		Plate 74A331652-2001, -2003 74A331652-2007, -2009	0.063 Sheet	7075-T62 Alclad
93		Tube 74A500602-2001, -2002	0.375 Dia	6061-T6 Al Aly
94		Bellows Assembly 75286-3	1.89 Dia	321 Cres

Figure 1. Material Index (Sheet 17)



Idx No.	Eft	Nomenclature and Part No.	Description	Material
95		Cover 74A500601-2001, -2002	0.050 Sheet	6061-T62 Al Aly
96		Intercostal 74A331634-2001, -2002	0.071 Sheet	7075-T62 Alclad
97		Intercostal 74A331634-2003, -2004	0.071 Sheet	7075-T62 Alclad
98		Support 74A500605-2001	0.040 Sheet	6061-T6 Al Aly
99		Tube 74A500604-2001	0.375 Dia	6061-T6 Al Aly
100		Guard 74A500606-2001	1MA160D06-10036 Extr	7075-T76511 Al Aly
101		Adapter 74A500603-2001	Machined Bar	6061-T651 Al Aly
102		Skin (Door 134) 74A331655-2001, -2002	Sheet	7075-T6 Alclad
103		Skin (Door 131) 74A331655-2003, -2004	Sheet	7075-T6 Alclad
104		Bushing 74A331656-2003	1.00 Bar	CA172 Beryllium Copper
105		Bushing 74A331645-2003	1.125 Bar	CA172 Beryllium Copper
106		Bushing 74A331656-2001	1.125 Bar	CA172 Beryllium Copper
107		Bushing 74A331645-2001	1.125 Bar	CA172 Beryllium Copper
108		Plate 74A330622-2035, -2036	0.100 Plate	7075-T76 Al Aly
109		Plate 74A330622-2033, -2034	0.100 Plate	7075-T76 Al Aly
110		Stringer 74A331622-2030, -2029	0.090 Sheet	7075-T 76 Alclad
111		Stringer 74A331622-2023, -2024	0.090 Sheet	7075-T76 Alclad

Figure 1. Material Index (Sheet 18)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
112	19 20	Stringer 74A331622-2024, -2023 74A331622-2030, -2029	0.090 Sheet	7075-T76 Alclad
113		Stringer 74A331622-2021, -2022	0.090 Sheet	7075-T76 Alclad
114	47	Doubler 74A330035-2027, -2028	0.071 Sheet	7075-T76 Alclad

LEGEND

- 1 MS24665-151 cotter pin and two AN960C416L washers used with pin.
- 2 MS24665-151 cotter pin, NAS1057T4-220 spacer and two 4M36-02104 washers used with each pin.
- 3 Webbing covered with 840 denier woven nylon sleeving.
- 4 161742 THRU 161924.
- 5 161925 AND UP.
- 6 161742 THRU 161751.
- 7 161752 THRU 161983.
- 8 161742 THRU 161758, 161924.
- 9 161759 THRU 161761, 161925 AND UP.
- 10 162903 AND UP.
- 11 161925 THRU 161943.
- 12 161742 THRU 161940.
- 13 161942 AND UP.
- 14 161742 THRU 161944.
- 15 161945 THRU 162443, 162451, 162459, 162467, 162468.
- 16 161944 THRU 162468.
- 17 161984 AND UP.
- 18 161742 THRU 161983.
- 19 161742 THRU 161987.
- 20 162394 AND UP.
- 21 161925 THRU 161987.
- 22 161742 THRU 161978.
- 23 161979 AND UP.
- 24 161942 THRU 162394.
- 25 162395 THRU 162851, 162854 THRU 162862, 162866 THRU 162872.
- 26 161742 THRU 162397.
- 27 162398 THRU 162881.
- 28 162444.
- 29 162445 THRU 162450, 162452 THRU 162458, 162460 THRU 162466, 162469 AND UP.
- 30 162469 AND UP.
- 31 161742 THRU 162468.
- 32 162394 THRU 162444.
- 33 162445 THRU 162902.
- 34 161742 THRU 162468 before repair of 74A330638 deflector.
- 35 162852, 162853, 162863 THRU 162865, 162873 AND UP.
- 36 Strap portion of assembly is 0.063 stock with machined thickness of 0.025 in alternate order.
- 37 162395 THRU 162848, 162850 THRU 162852, 162854, 162856 THRU 162864, 162866 THRU 162869.

Figure 1. Material Index (Sheet 19)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
38		162849, 162853, 162855, 162870 AND UP.		
39		162882 AND UP.		
40		162882 THRU 162901.		
41		162902 AND UP.		
42		161742 THRU 162881.		
43		161742 THRU 163102.		
44		163103 AND UP.		
45		161742 THRU 163128.		
46		163129 AND UP.		
47		161742 AND UP AFTER F/A-18 AFC 128.		

Figure 1. Material Index (Sheet 20)

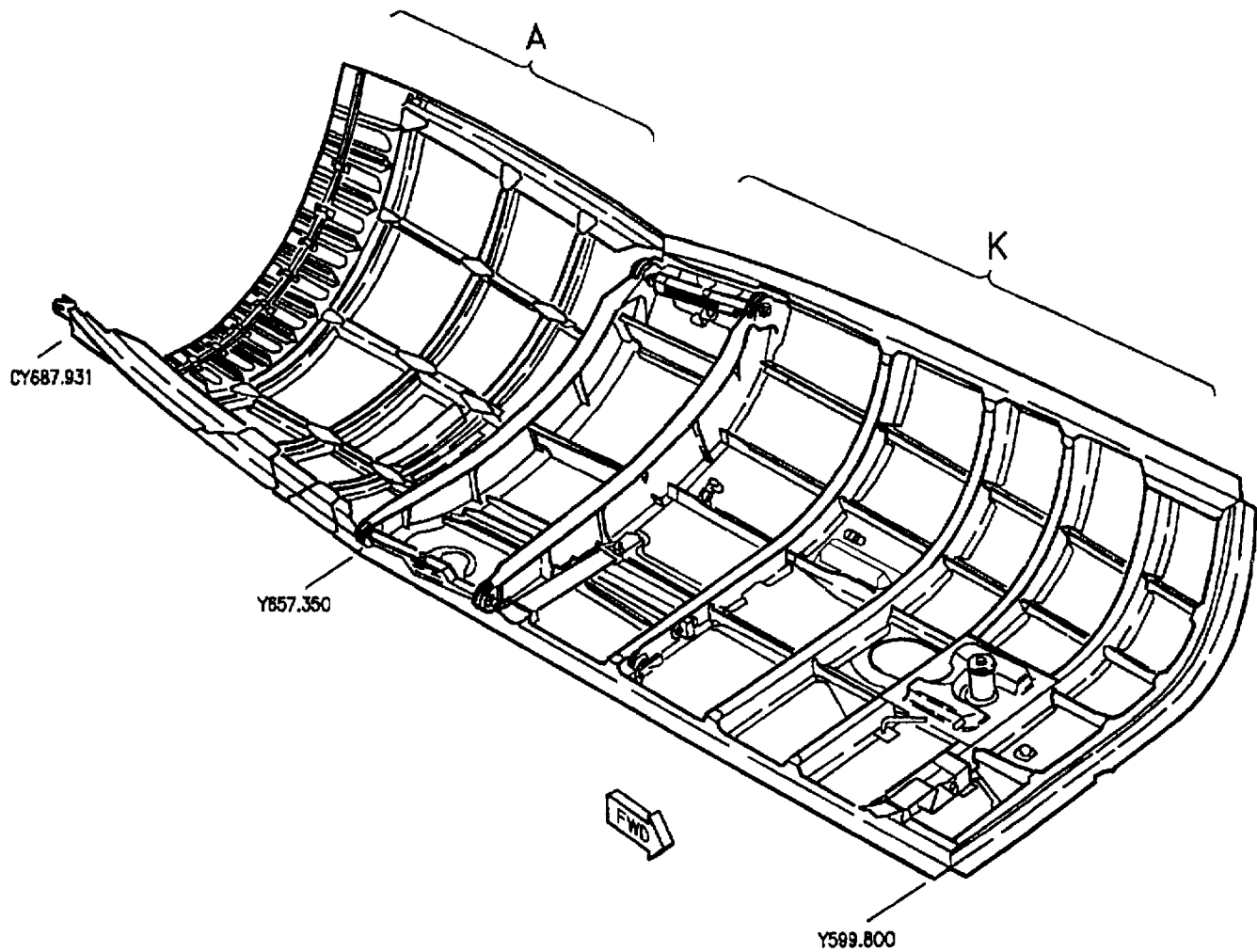


Figure 2. Repair Zones (Sheet 1)

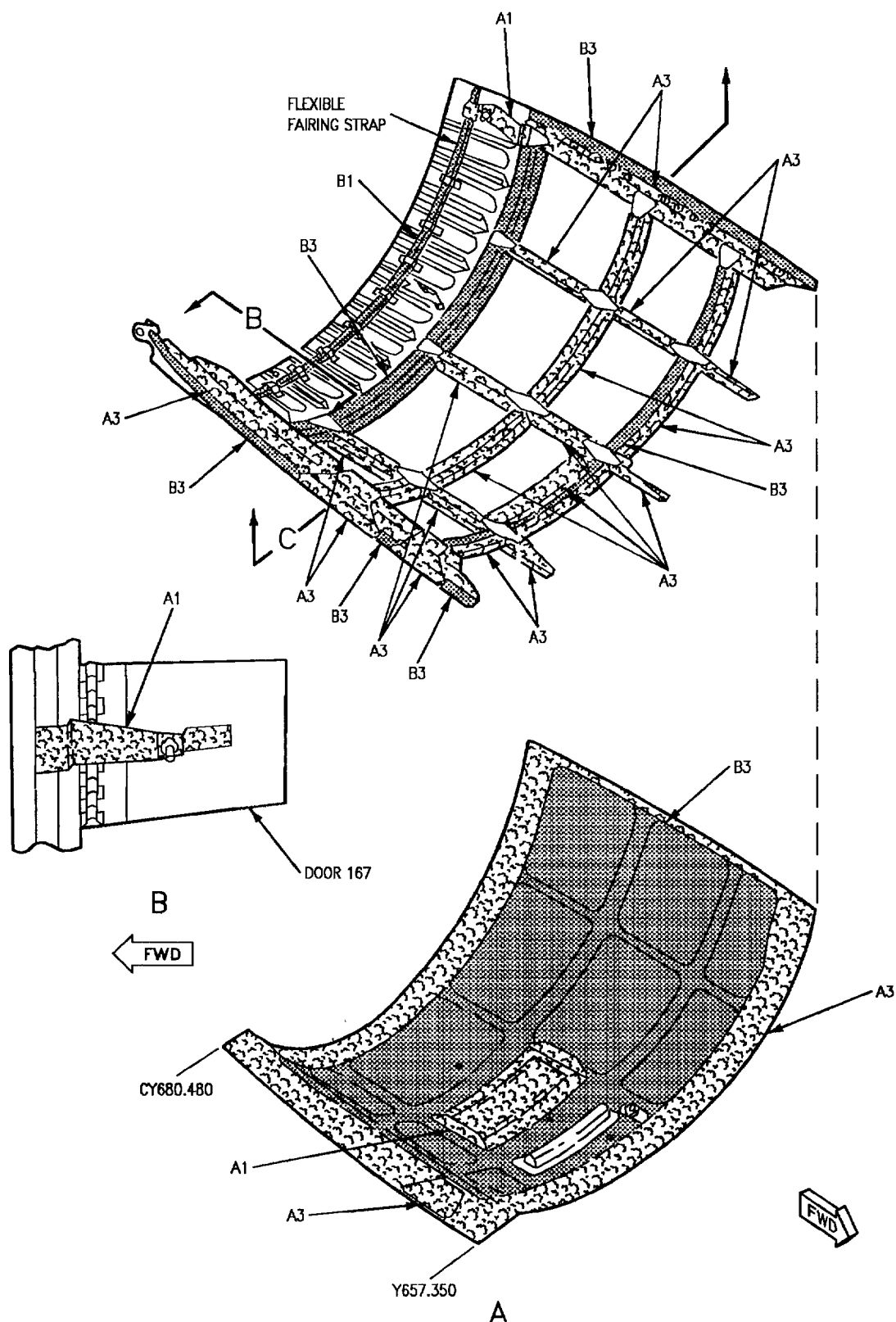


Figure 2. Repair Zones (Sheet 2)

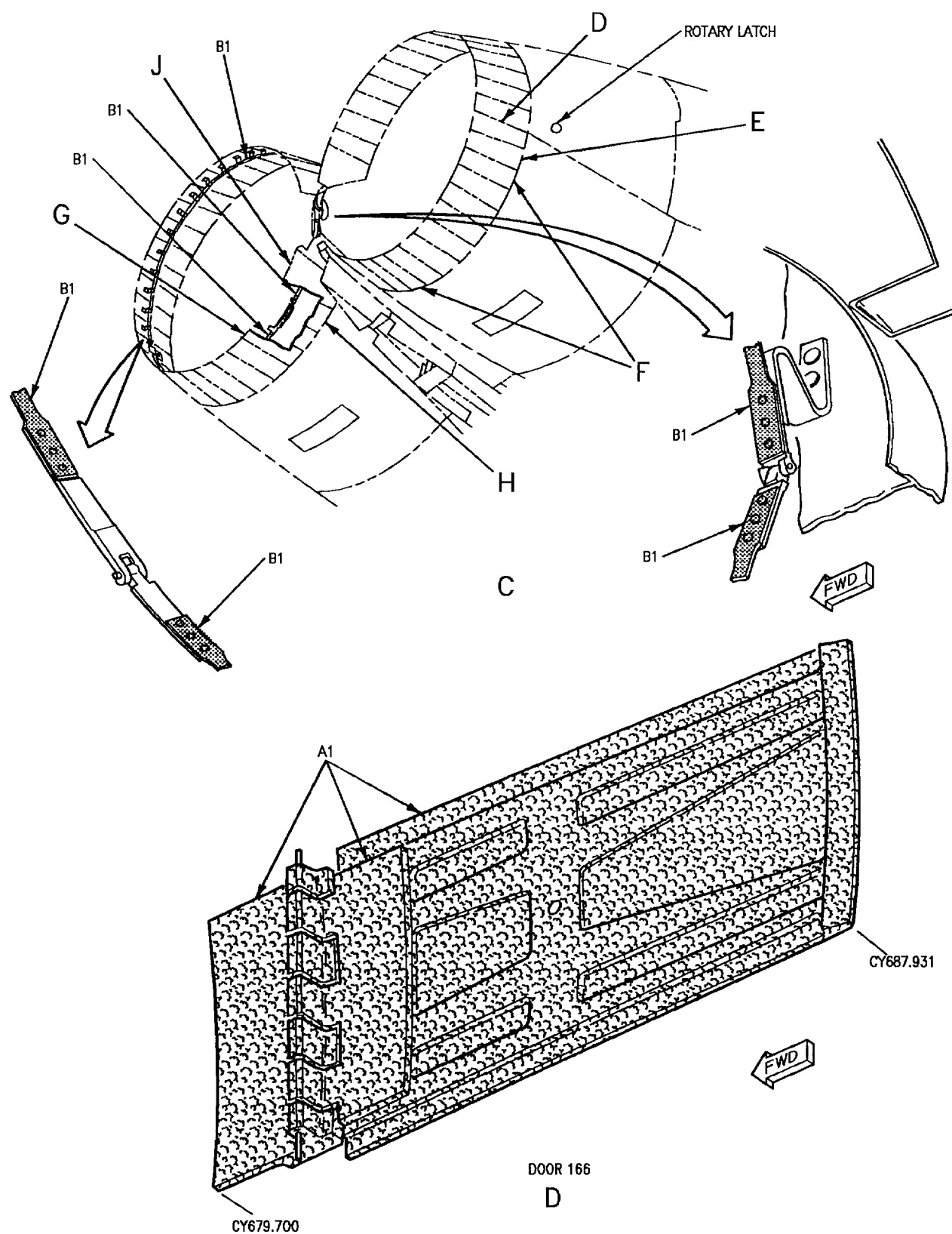


Figure 2. Repair Zones (Sheet 3)

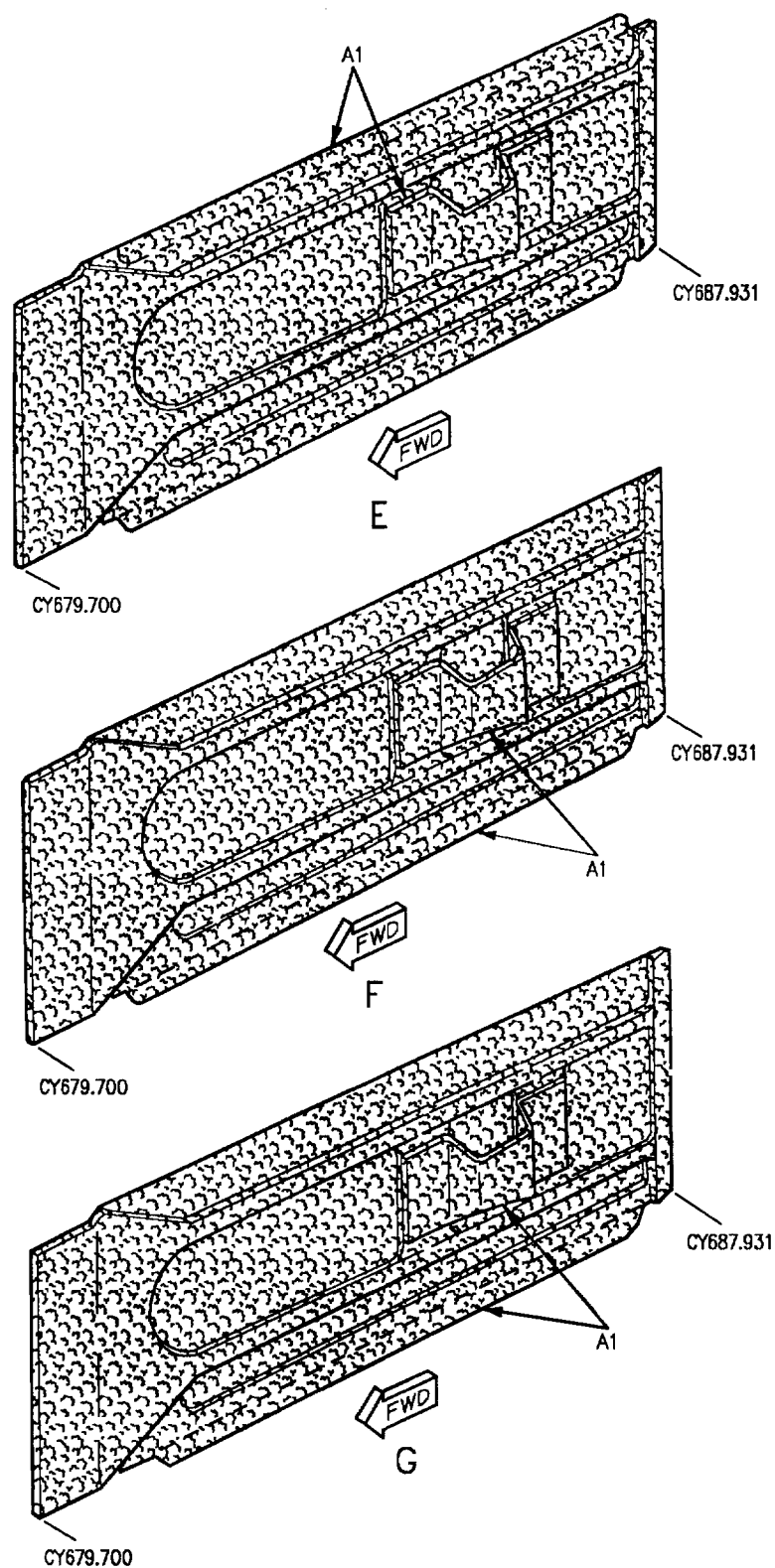


Figure 2. Repair Zones (Sheet 4)

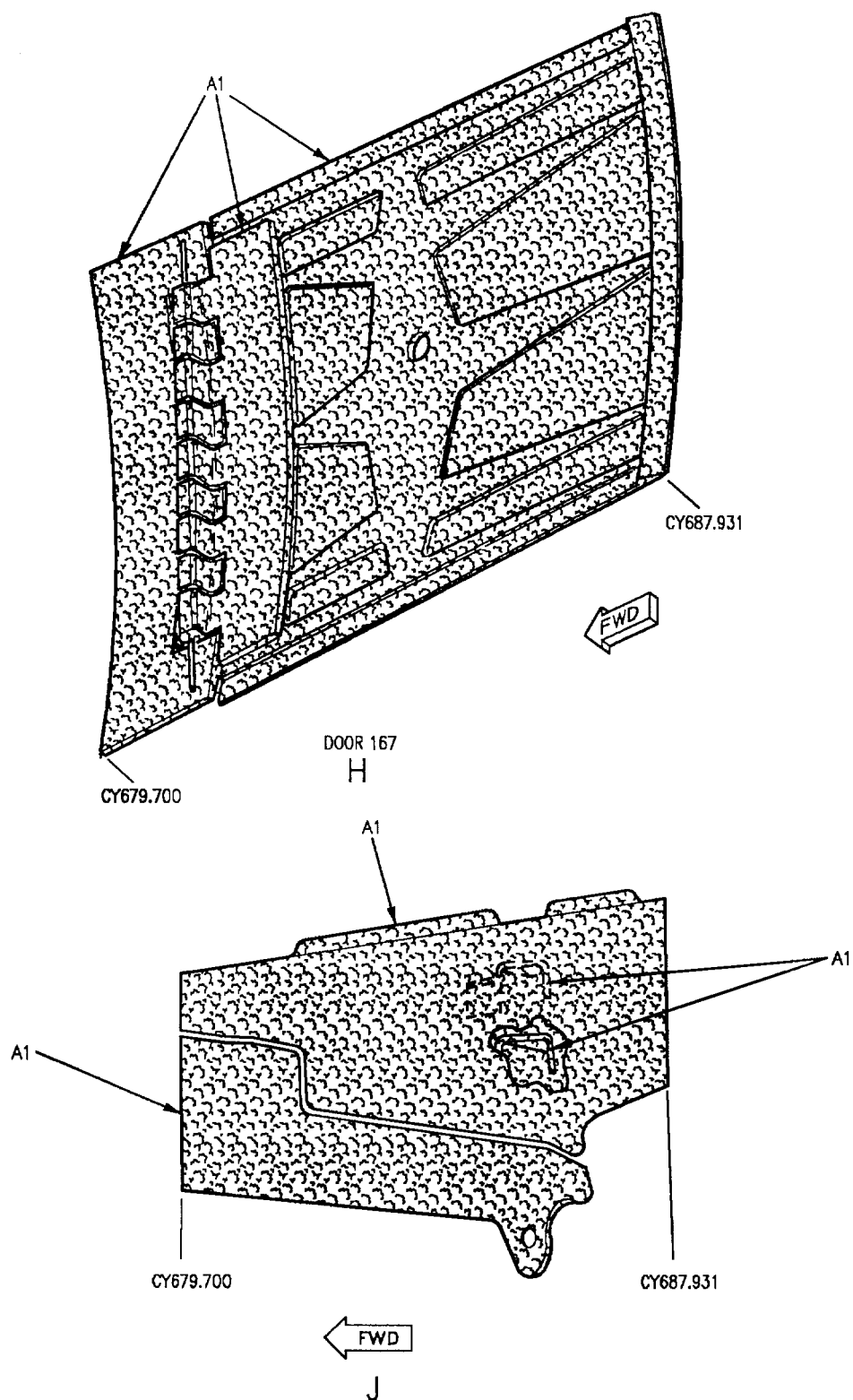


Figure 2. Repair Zones (Sheet 5)

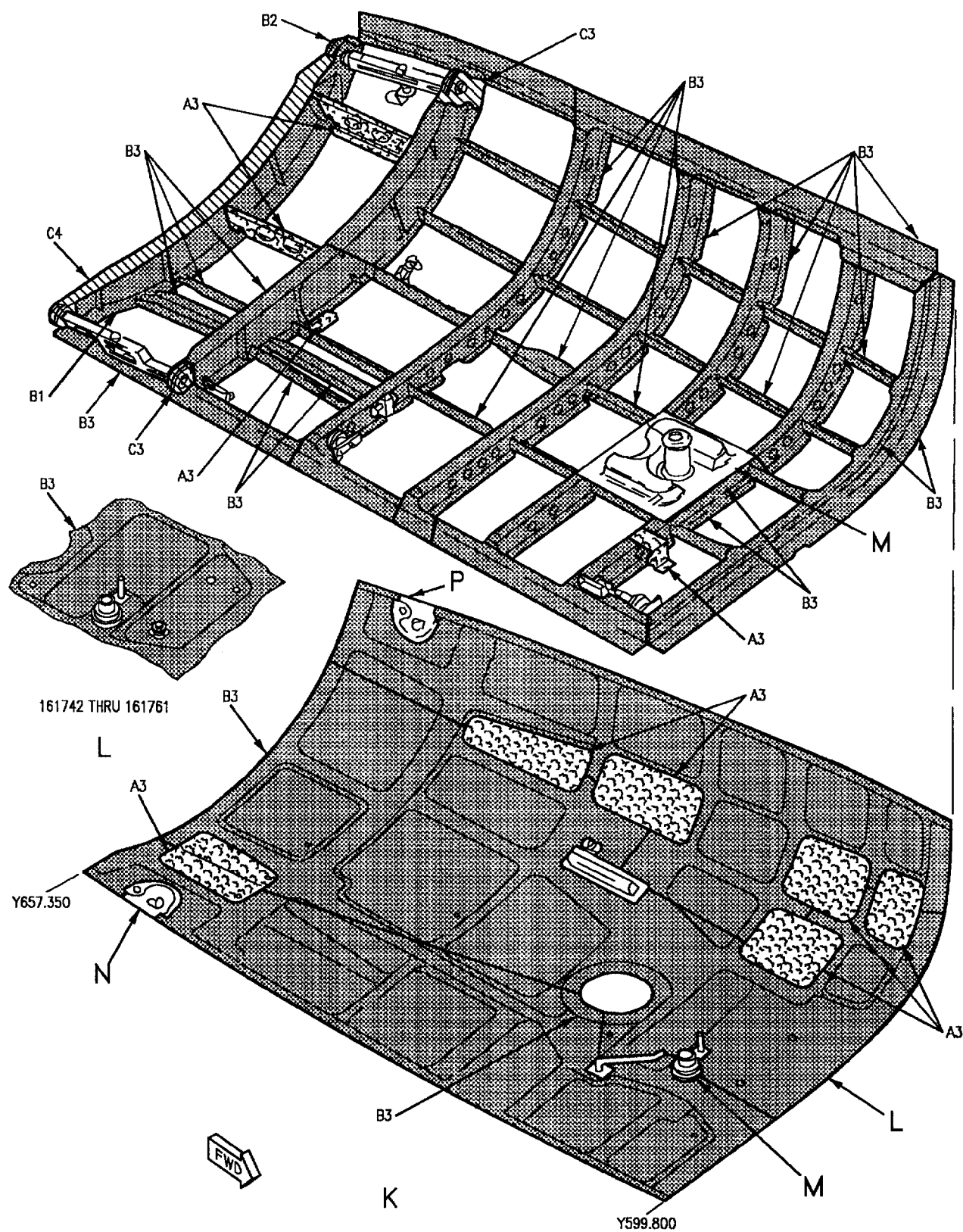


Figure 2. Repair Zones (Sheet 6)

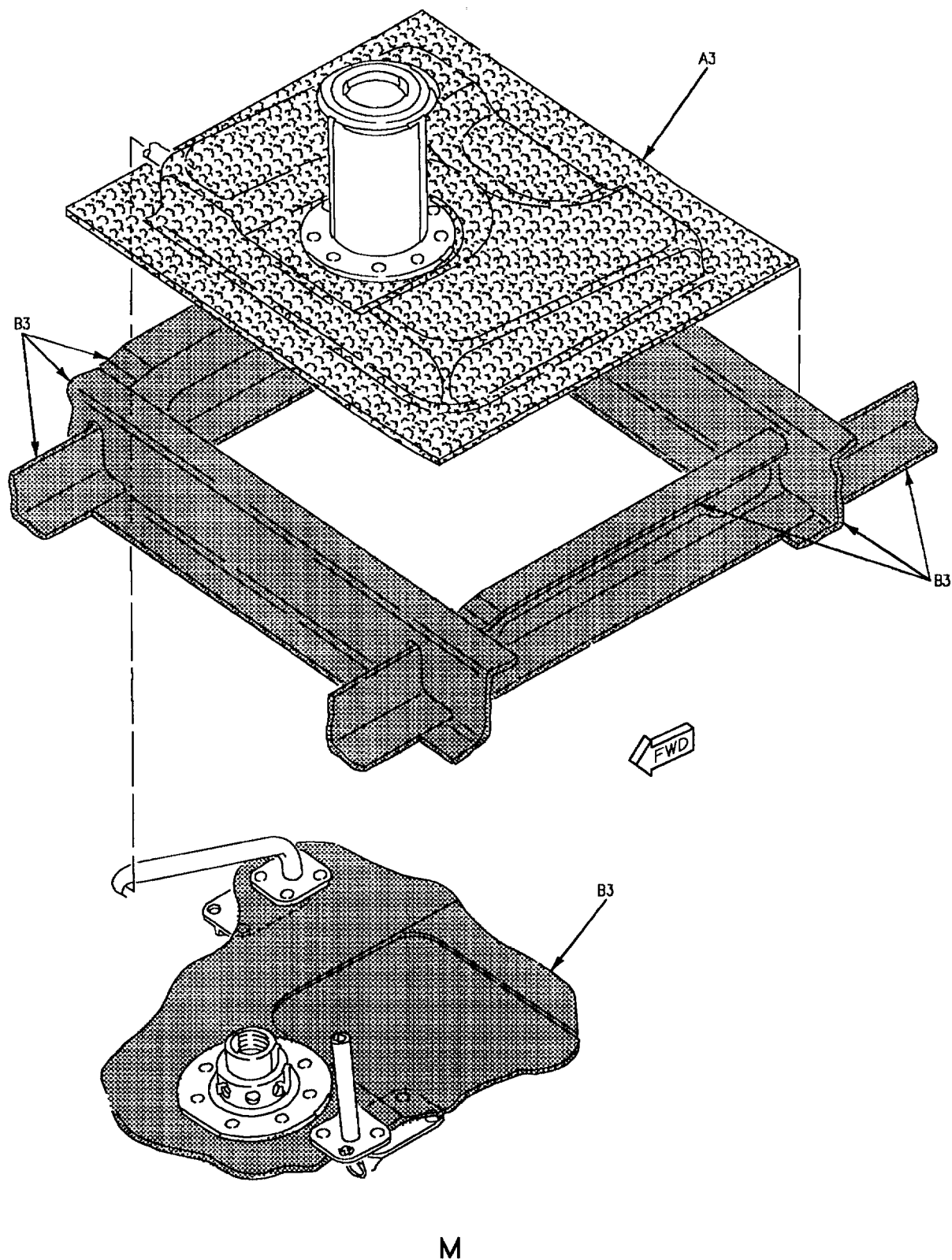


Figure 2. Repair Zones (Sheet 7)

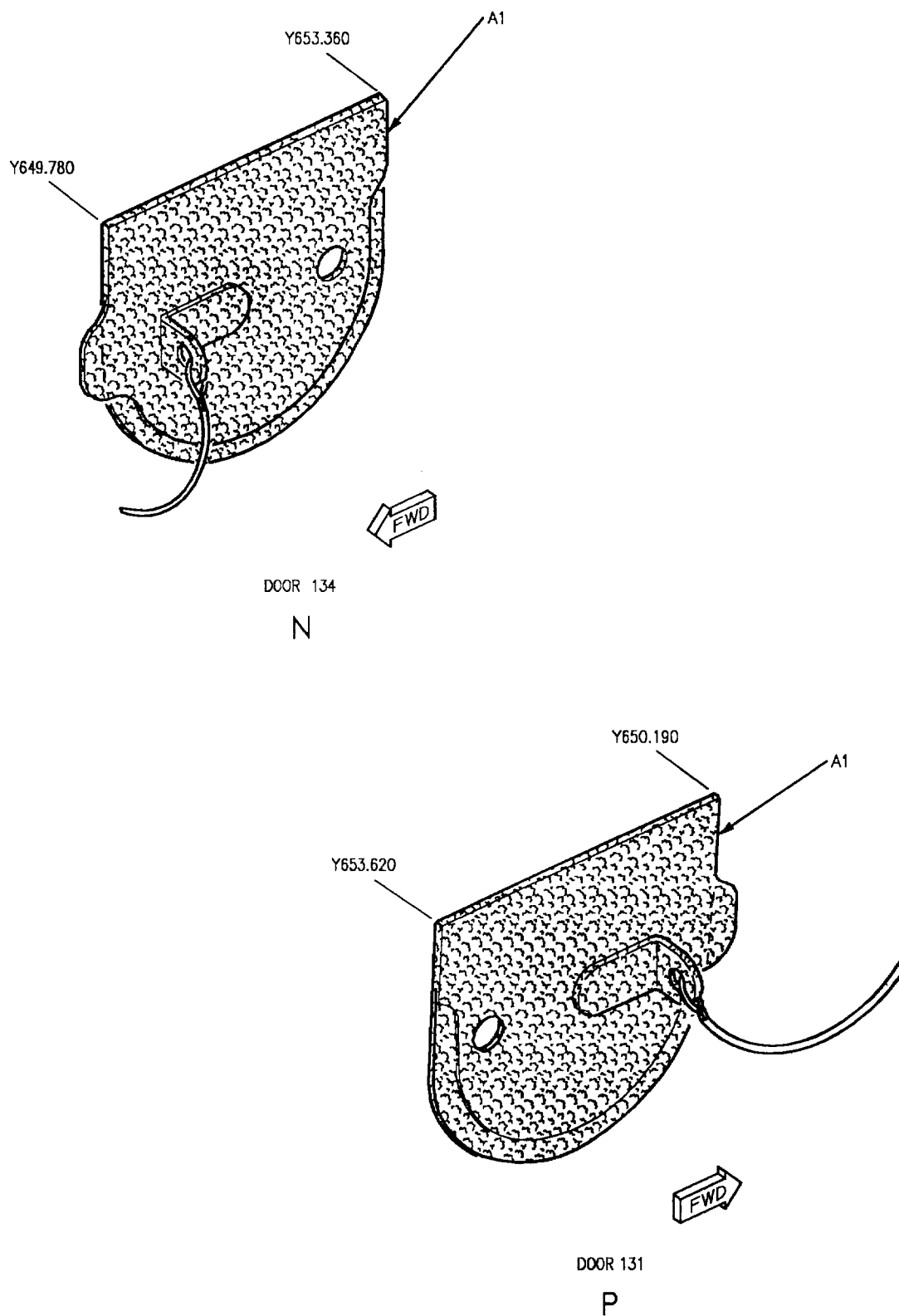
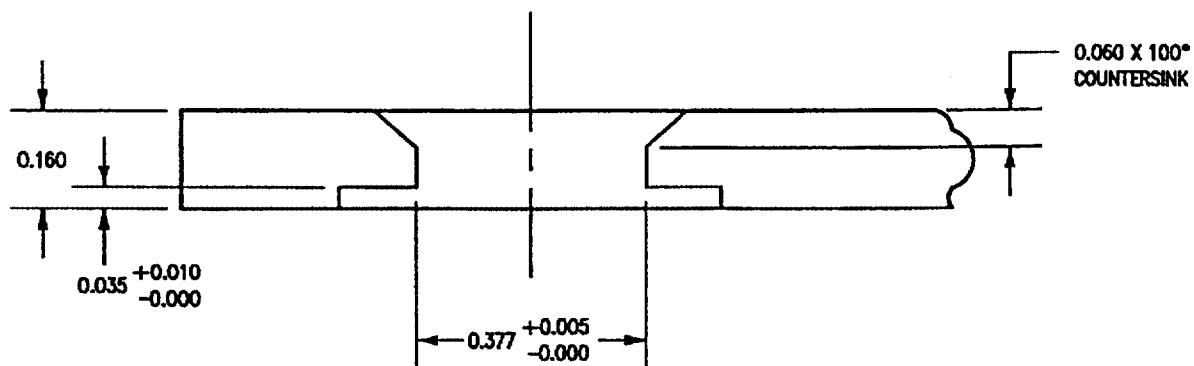
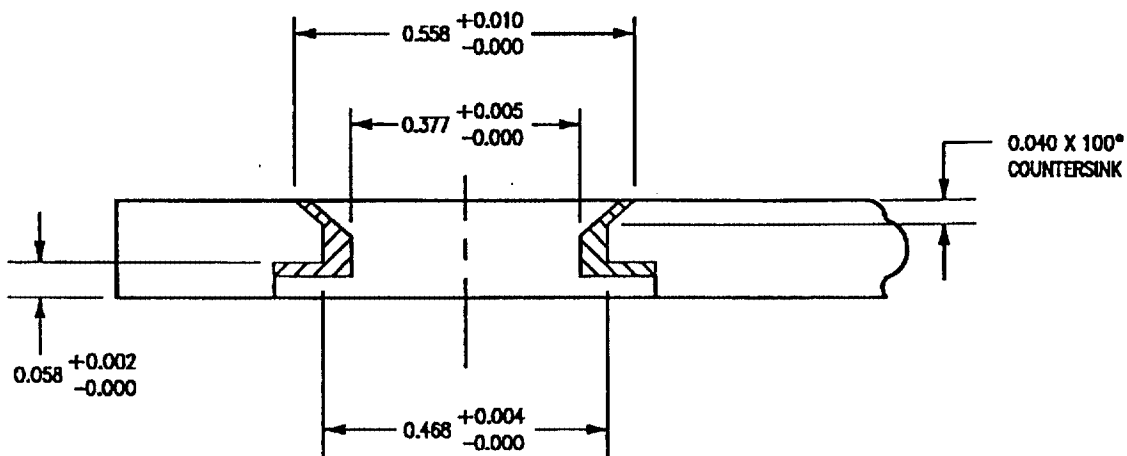


Figure 2. Repair Zones (Sheet 8)



STANDARD FASTENER HOLE



HOLE WITH GROMMET INSTALLED

Figure 3. Fastener Hole Repair

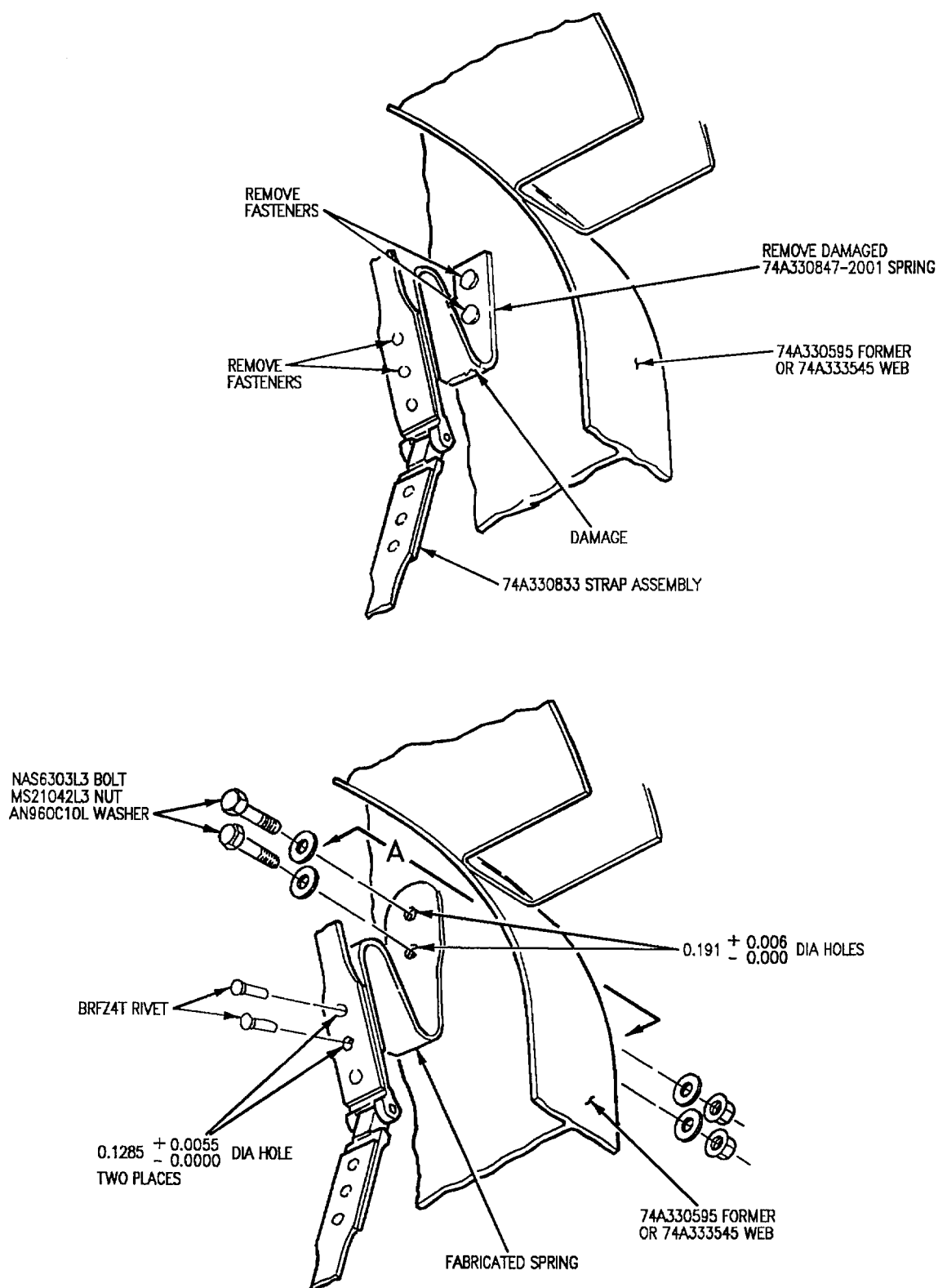


Figure 4. Repair 74A330847-2001 Spring (Sheet 1)

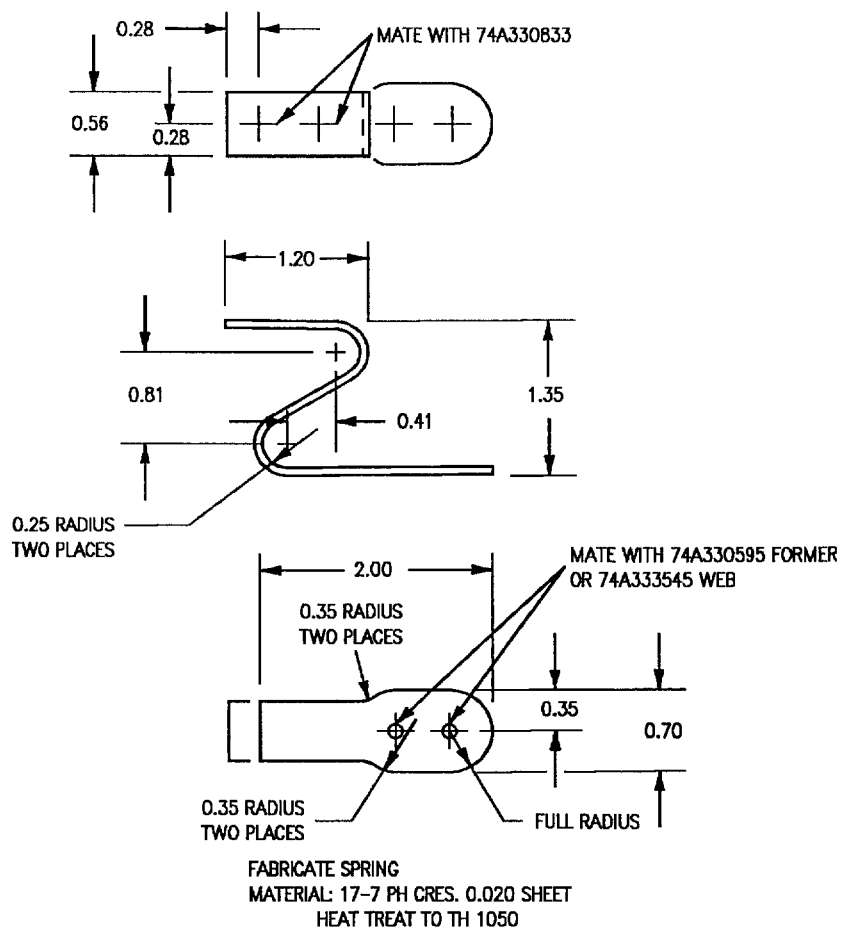
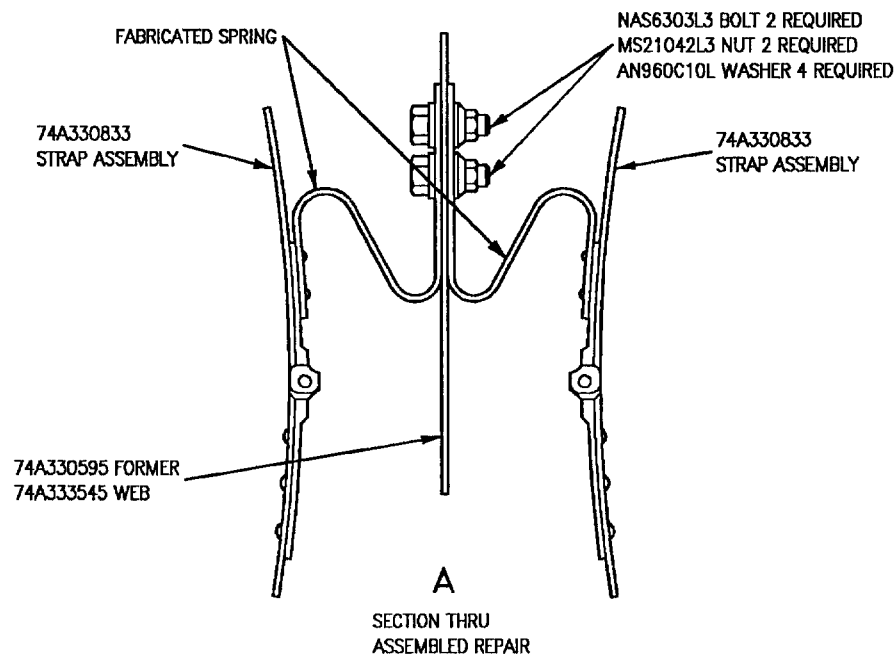


Figure 4. Repair 74A330847-2001 Spring (Sheet 2)

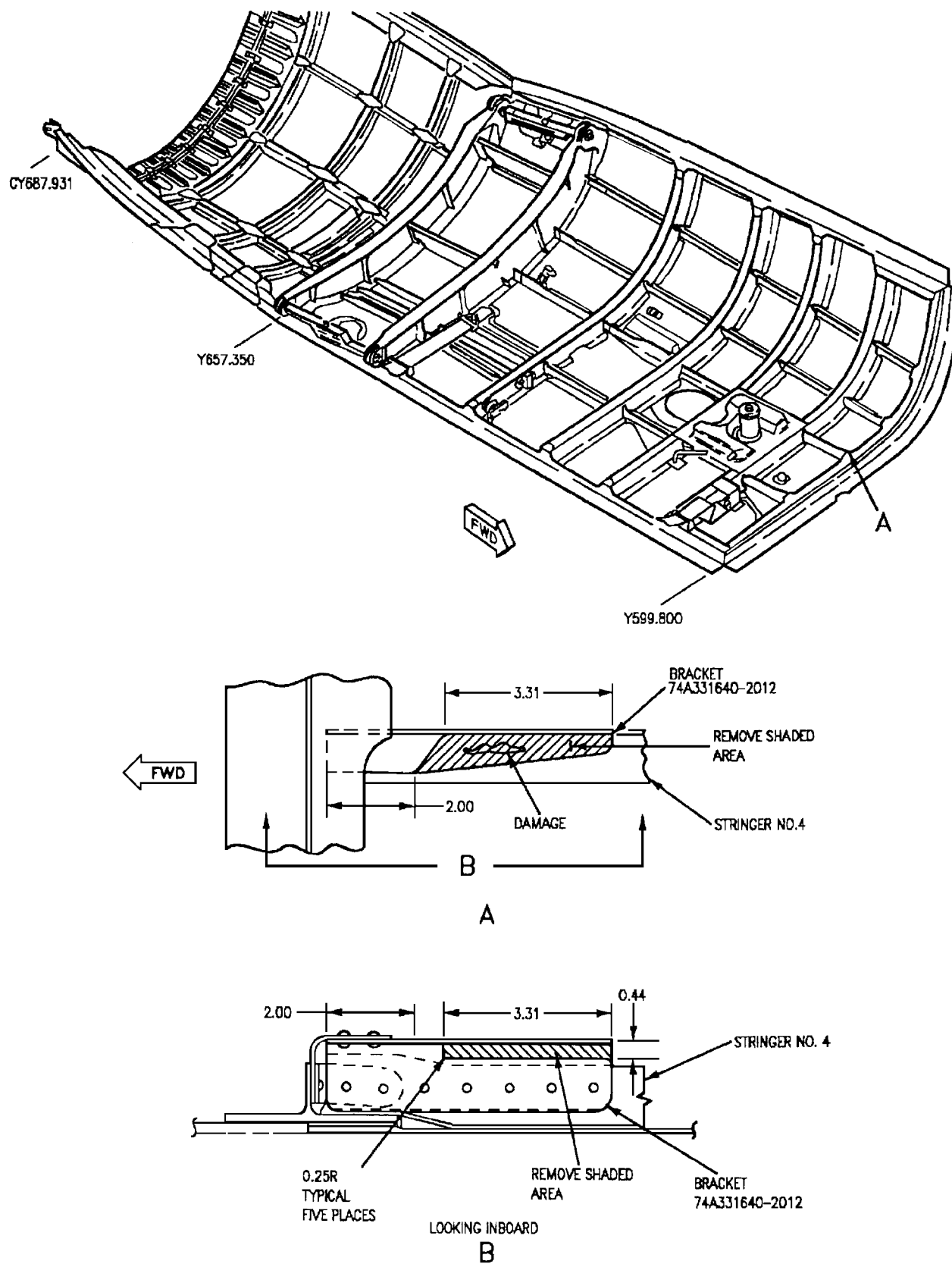


Figure 5. Bracket 74A331640-2012 Repair

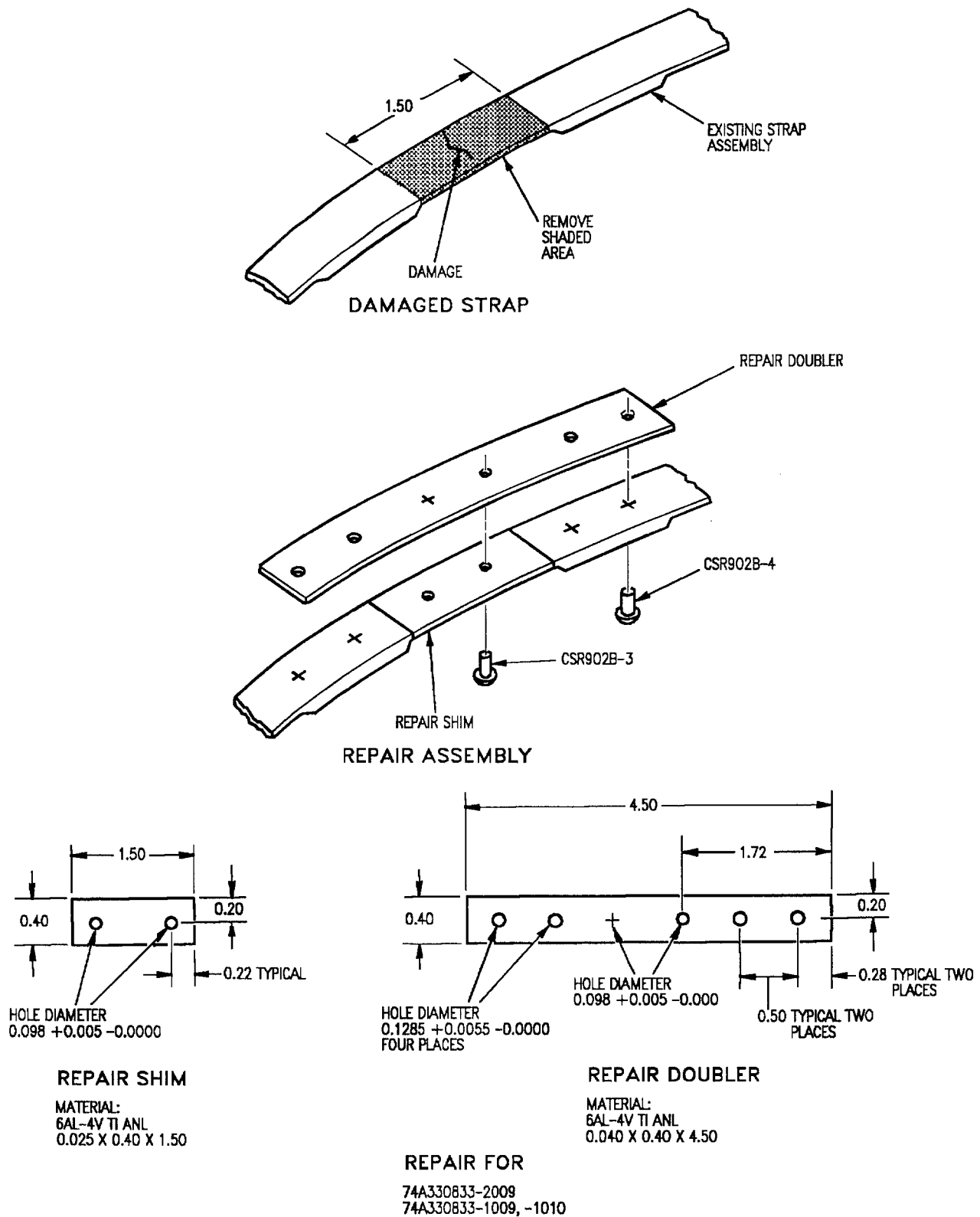


Figure 6. Strap Assembly Repair (Sheet 1)

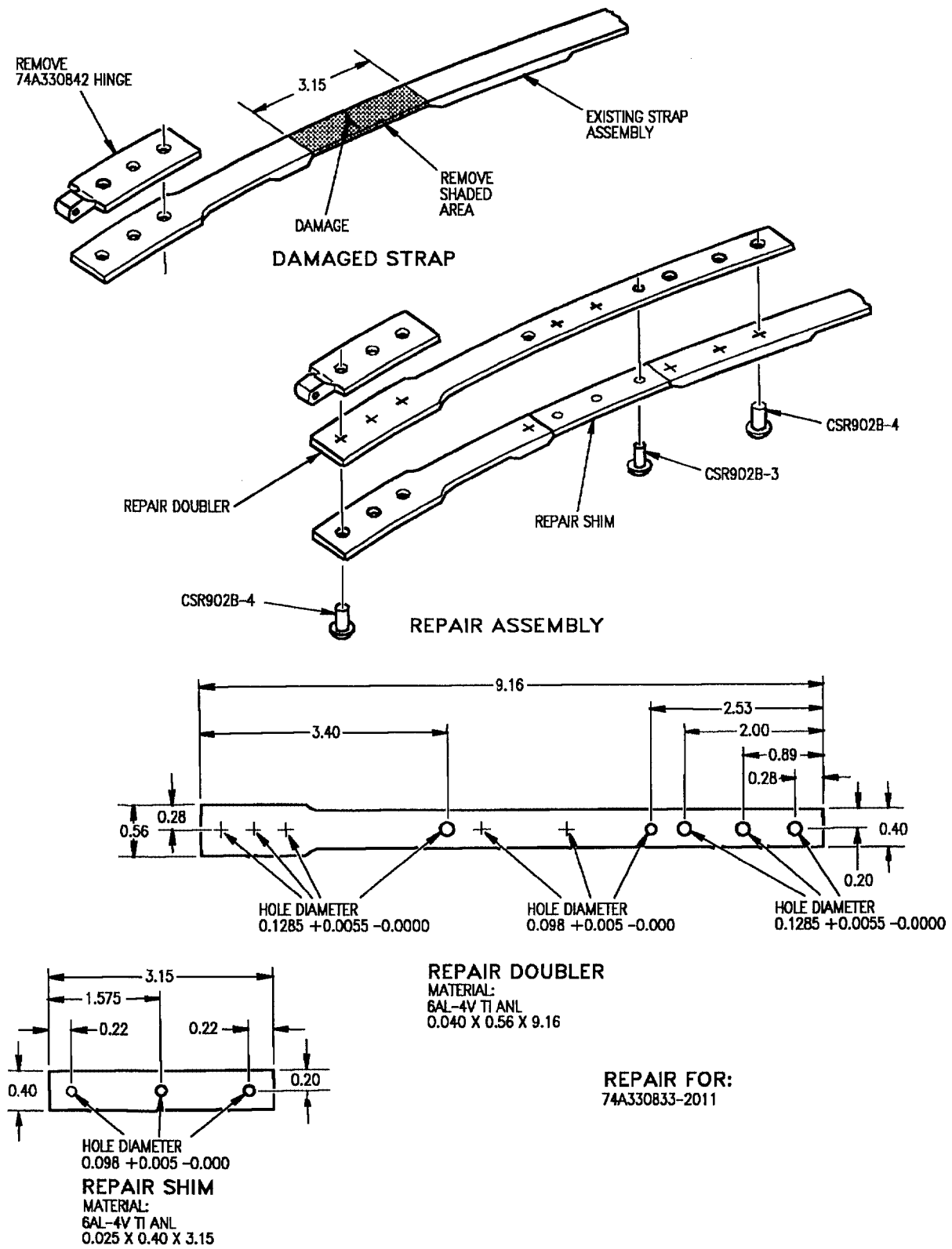


Figure 6. Strap Assembly Repair (Sheet 2)

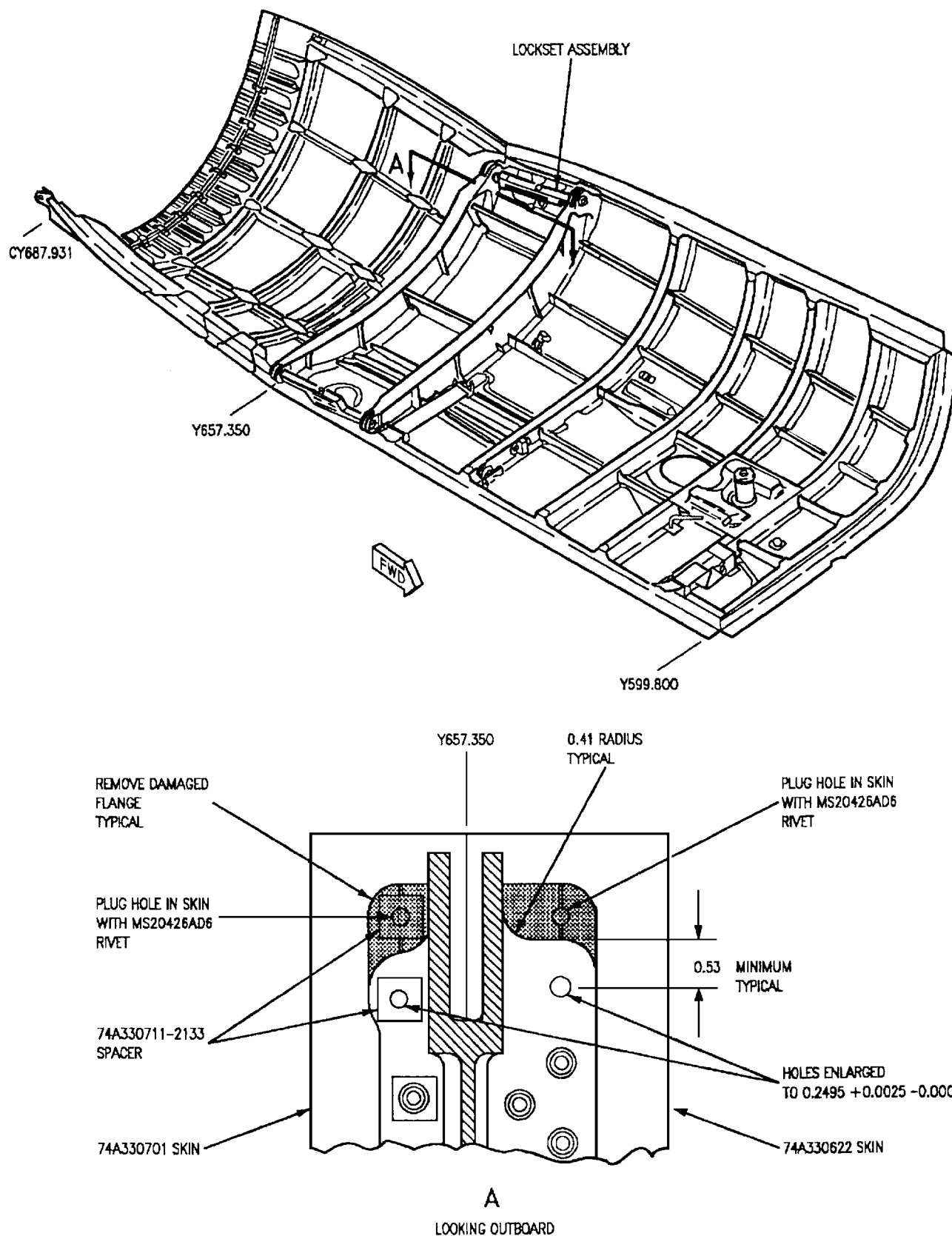
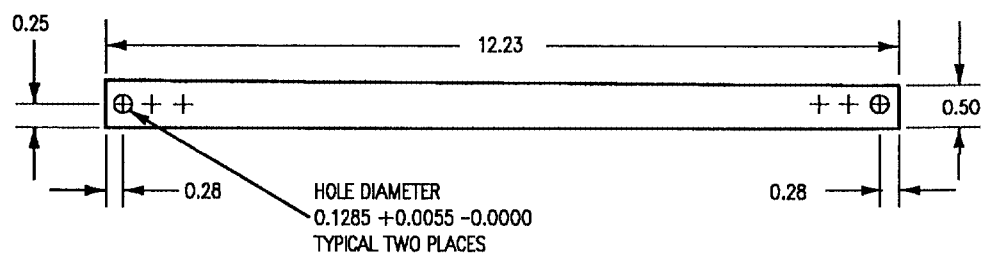
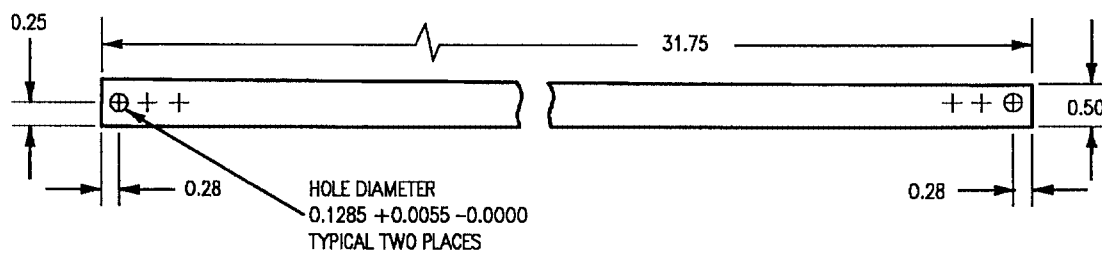
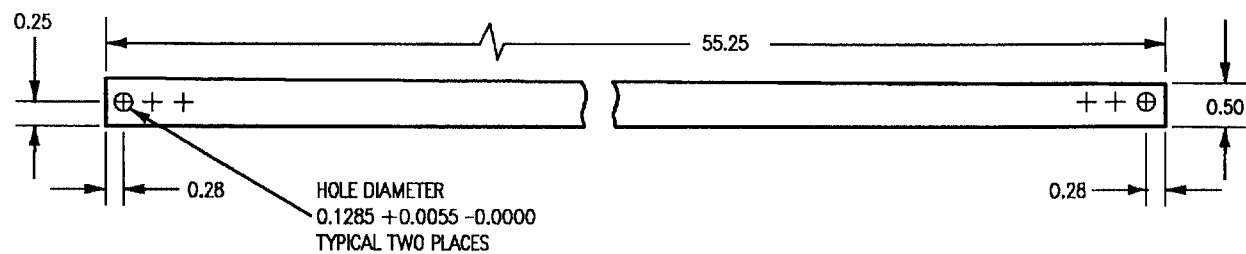


Figure 7. Former 74A331679 Outboard Lower Flange Repair



MATERIAL : 6Al-4v TI ANNEALED
MIL-T-9046
0.040 X 0.50 X ()

Figure 8. Temporary Repair For 74A330833 Strap Assemblies

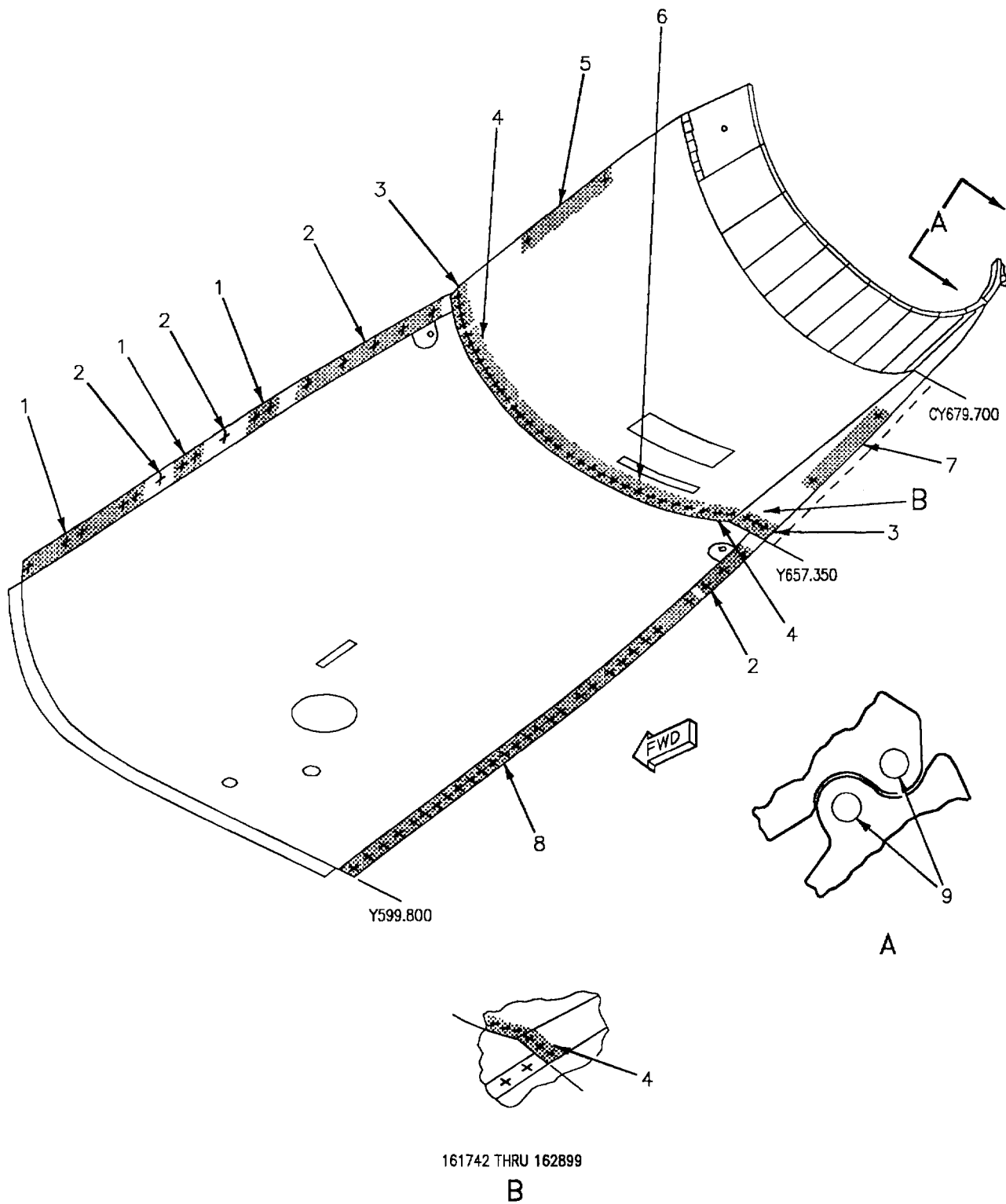


Figure 9. Door 68 Replacement (Sheet 1)




























Idx No.	Eft		Nomenclature	Part Number
1			Receptacle	1950-6-10-0
2			Receptacle	1950-6-11-0
3			Pin Collar Spacer	HLT311-6-5 HL570-6MC 74A330711-2133
4			Pin Collar	HLT311-6-3 HL570-6MC
5	  	  	Receptacle  Receptacle  Receptacle 	1950-6-12-0  1960-6-12-0  1960-6-12-01
6			Pin Collar	HLT311-6-4 HL570-6MC
7			Receptacle 	1960-6-9-2
8			Receptacle	1950-6-9-1
9			Receptacle 	1960-6-9-1
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.377 +0.005 -0.000.</p> <p> Attached with NAS1097AD4 rivets, length determined on installation.</p> <p> Hole diameter is 0.1860 +0.0025 -0.0000.</p> <p> A 1950-6-12-0 two lug floating receptacle or a 1960-6-12-0 corner receptacle may have been installed at this location, for replacement order like part to eliminate redrilling of fastener holes.</p> <p> 161742 THRU 163141.</p> <p> 163142 AND UP.</p>				

Figure 9. Door 68 Replacement (Sheet 2)

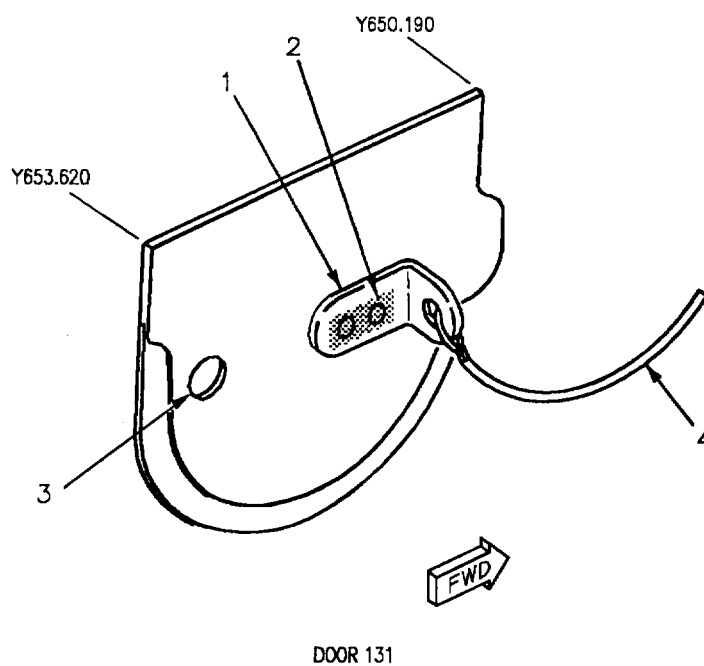
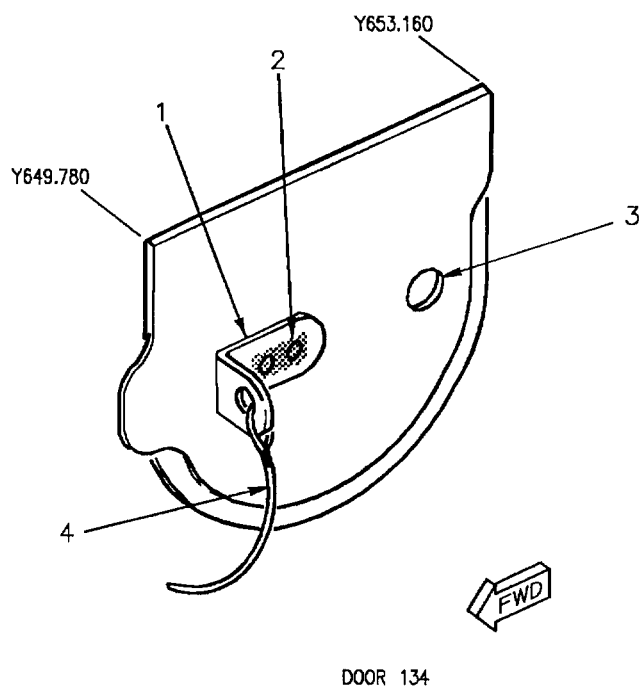


Figure 10. Door 131 and 134 Replacement (Sheet 1)







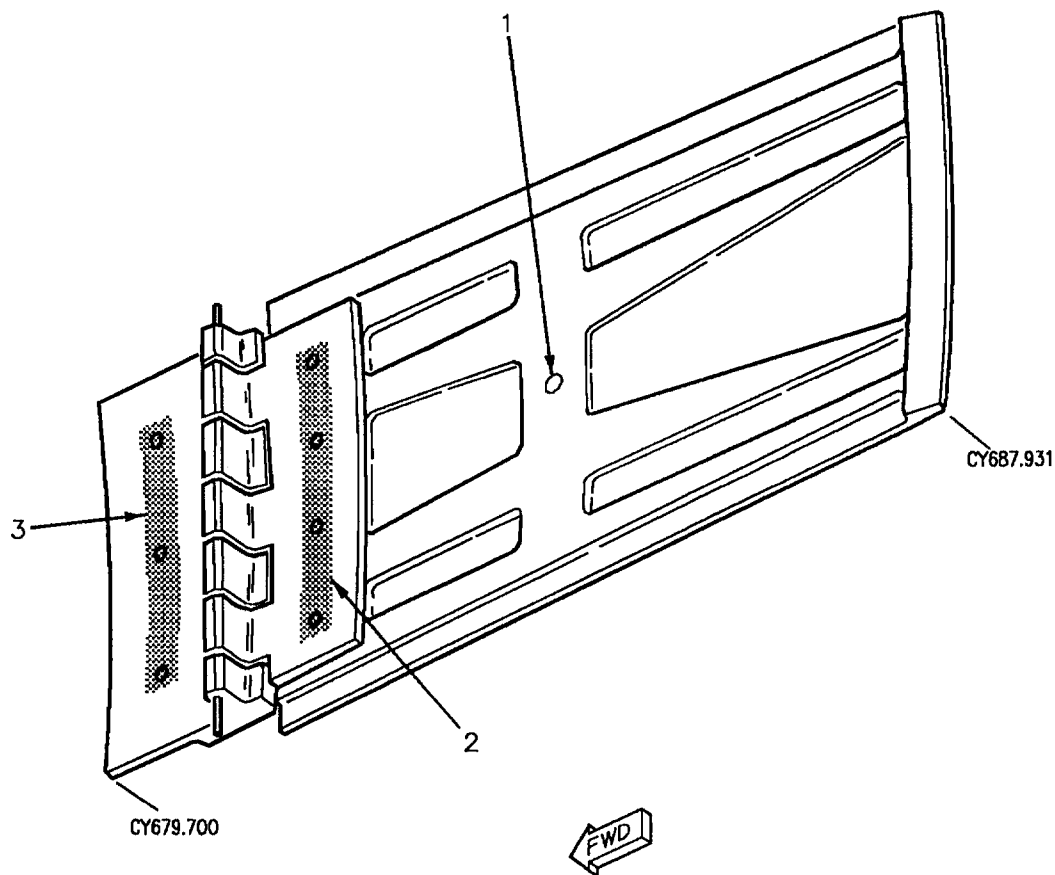










Idx No.	Eft		Nomenclature	Part Number
1			Bracket	AN743-13
2			Rivet	MS20426AD4
3			Receptacle	1960-6-12-0
4			Lanyard Sleeve	9M59-2-60L4 9M306-6
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.406 + 0.007 -0.000.</p> <p> Lanyard assembly to be completed at installation.</p> <p> Hole diameter is 0.125 +0.003 -0.000.</p>				

Figure 10. Door 131 and 134 Replacement (Sheet 2)



Idx No.	Eft		Nomenclature	Part Number
1			Receptacle 	195012-6-8-0
2			Rivet	BRFZ5T6 
3			Pin Collar	HLT311-5-4 SW1000-5M
LEGEND <ul style="list-style-type: none">  Hole diameter is 0.377 +0.005 -0.000.  Hole diameter is 0.161 +0.005 -0.000.  Attached with CSR902B-4 rivets, length determined on installation.  Hole diameter is 0.1635 +0.0025 -0.0000.  Preferred replacement for CSR904B-5-6 rivet and HLT311-5 pin. 				

19011101

Figure 11. Door 166 Replacement

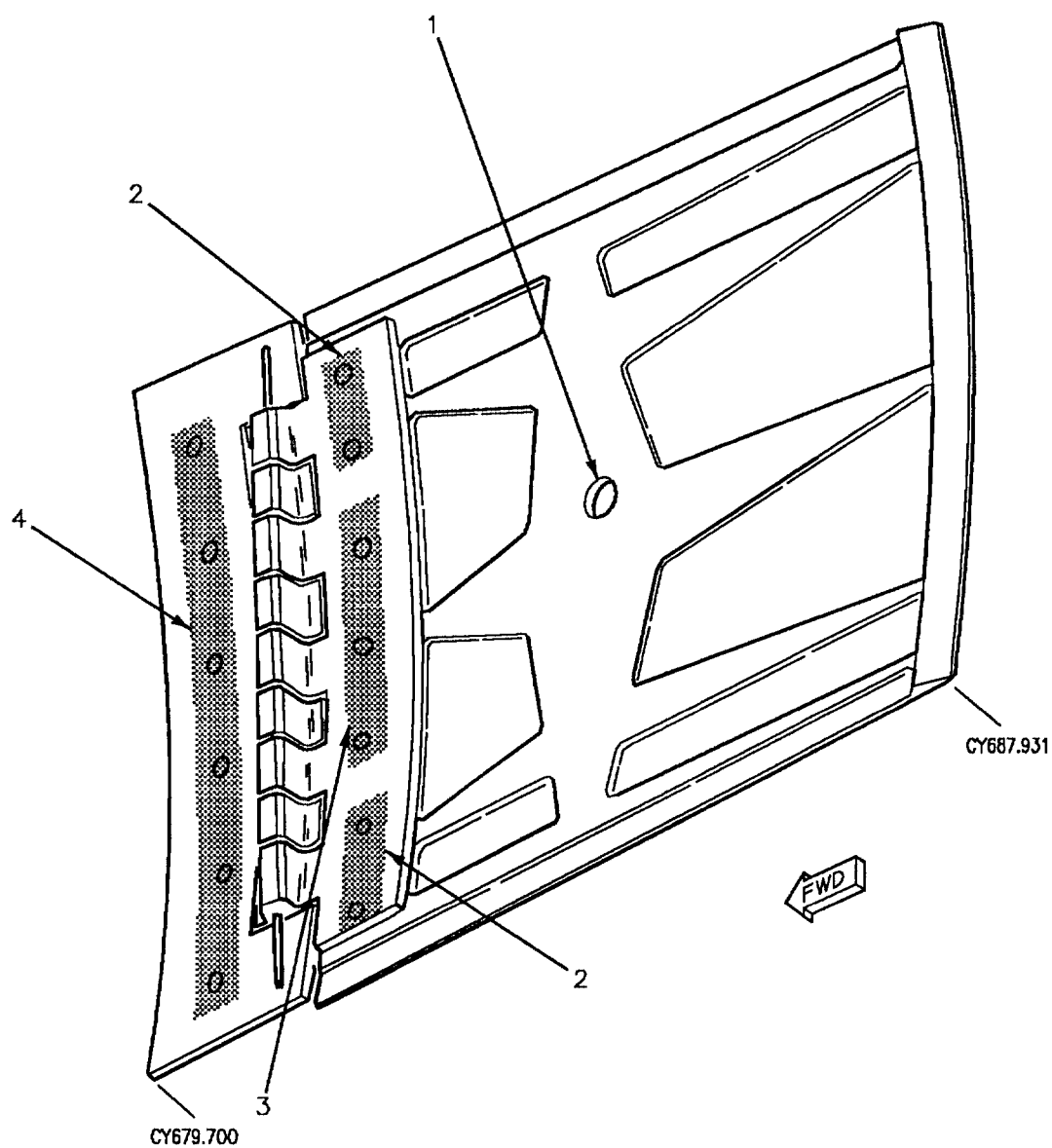


Figure 12. Door 167 Replacement (Sheet 1)













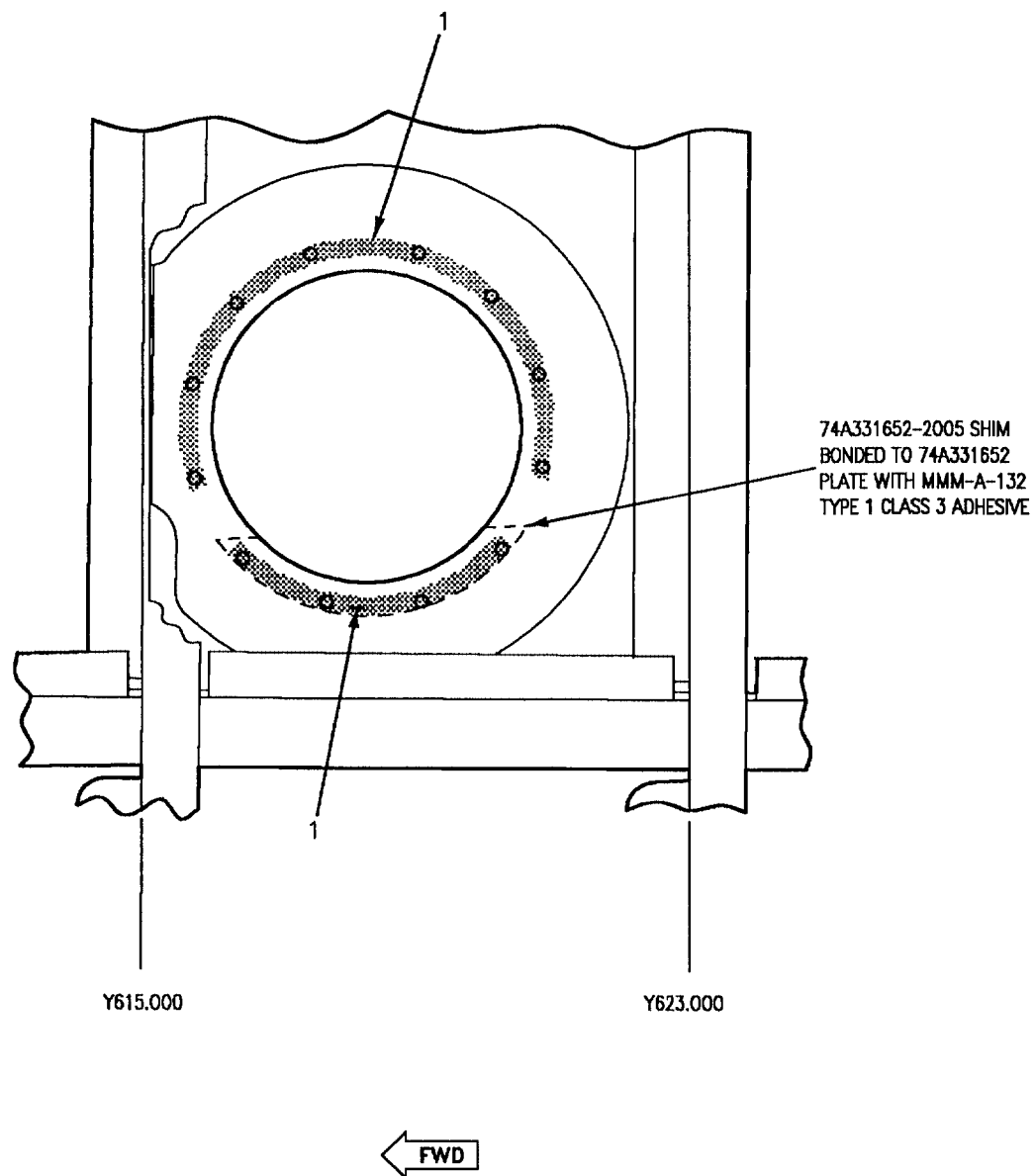
Idx No.	Eft		Nomenclature	Part Number
1			Receptacle 	195012-6-8-0
2			Pin Collar	HLT311-5-3 SW1000-5M
3			Rivet	BRFZ5T6 
4			Pin Collar	HLT311-5-4 SW1000-5M
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.377 +0.005 -0.000.</p> <p> Hole diameter is 0.1635 +0.0022 -0.0000.</p> <p> Hole diameter is 0.161 +0.005 -0.000.</p> <p> Attached with CSR902B-4 rivets, length determined on installation.</p> <p> Hole diameter is 0.1635 +0.0025 -0.0000.</p> <p> Preferred replacement for CRS904B-5-6 rivet.</p>				

Figure 12. Door 167 Replacement (Sheet 2)



Idx No.	Eft		Nomenclature	Part Number
1			Plate Nut	MS21059L08
LEGEND				
Hole diameter in structure is 0.191 +0.006 -0.000.				

Figure 13. AS-2595/APN-194(V) Antenna Replacement

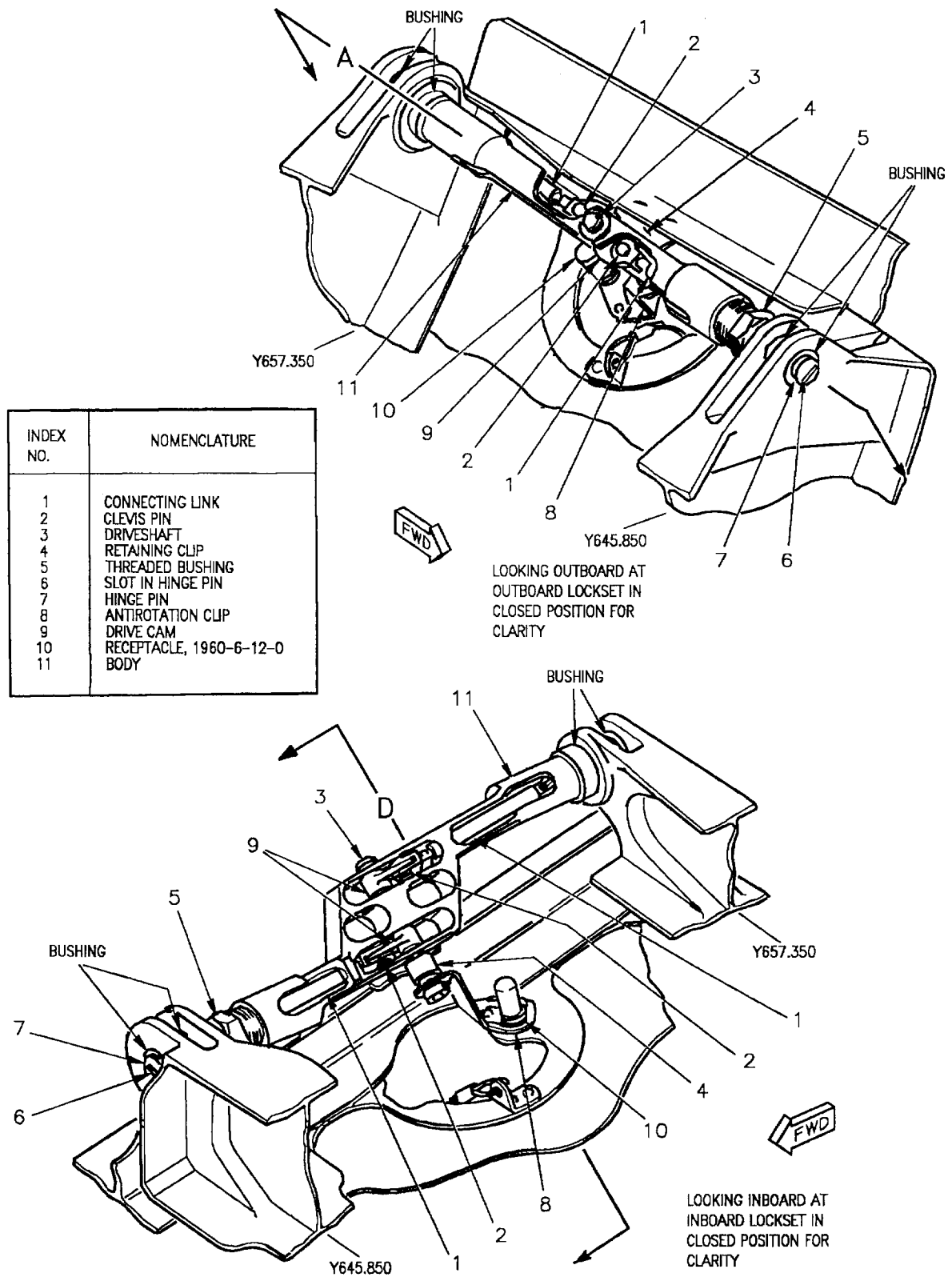


Figure 14. Lockset Replacement (Sheet 1)

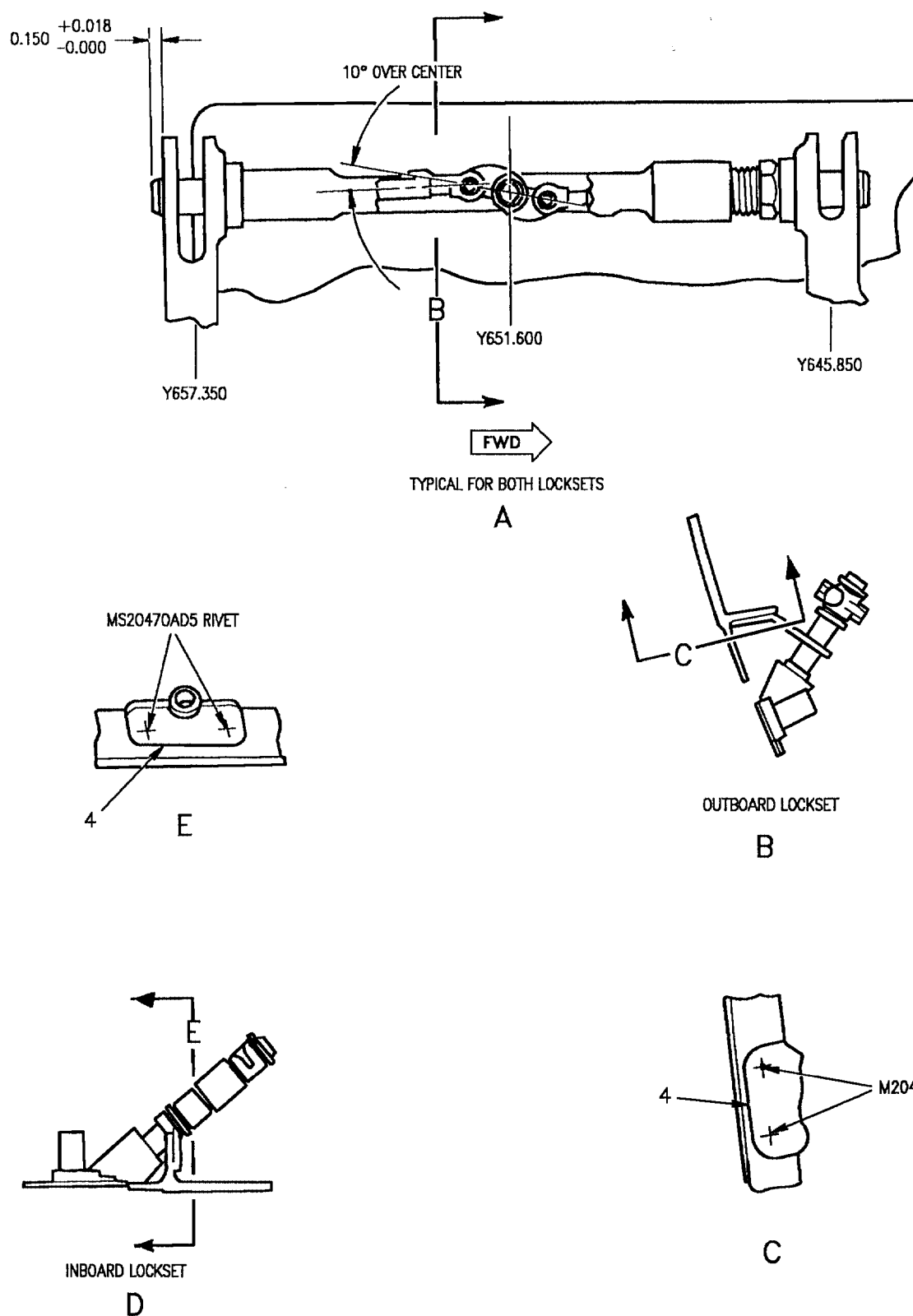


Figure 14. Lockset Replacement (Sheet 2)

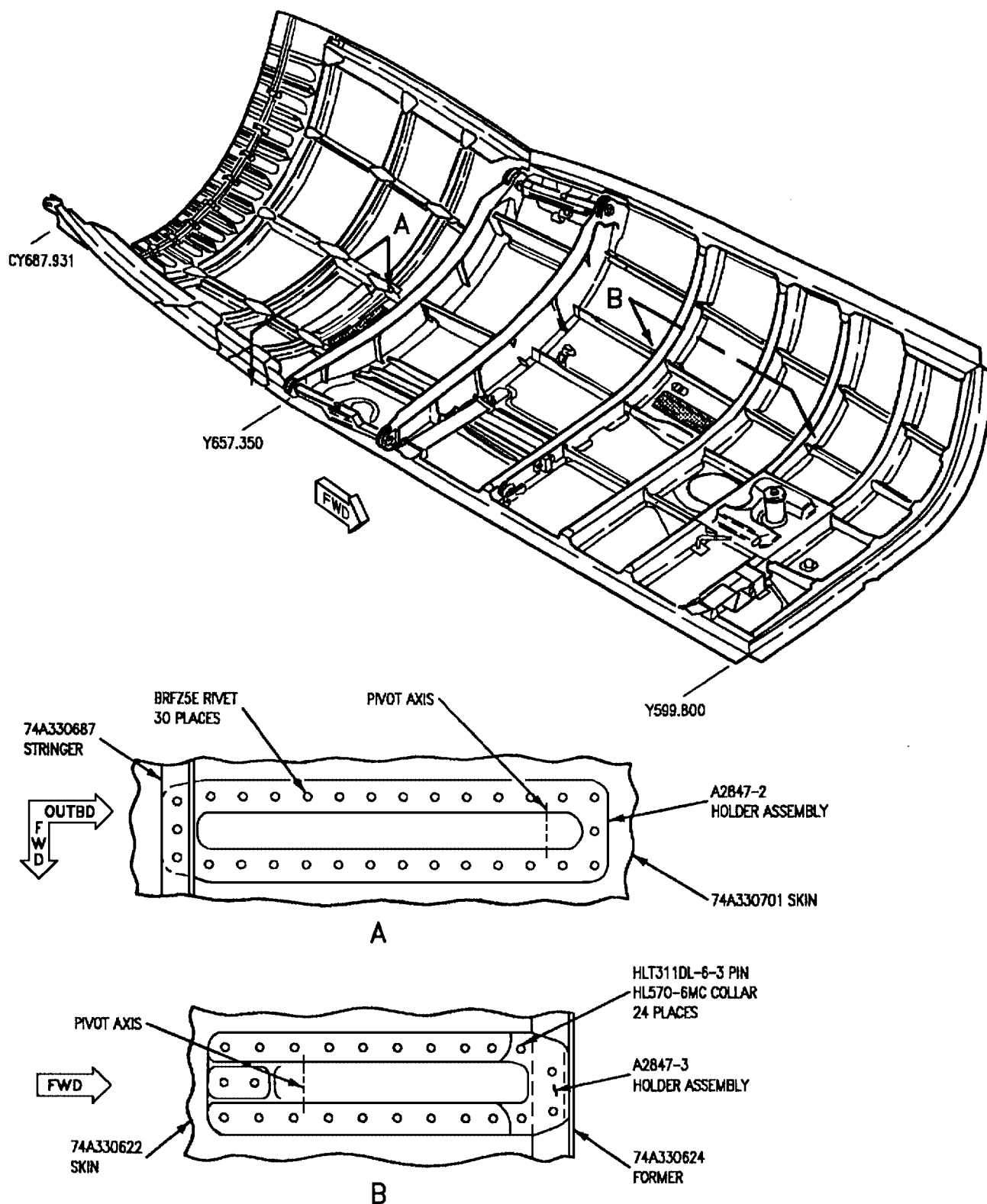


Figure 15. A2847-2, A2847-3 Holder Assembly Replacement

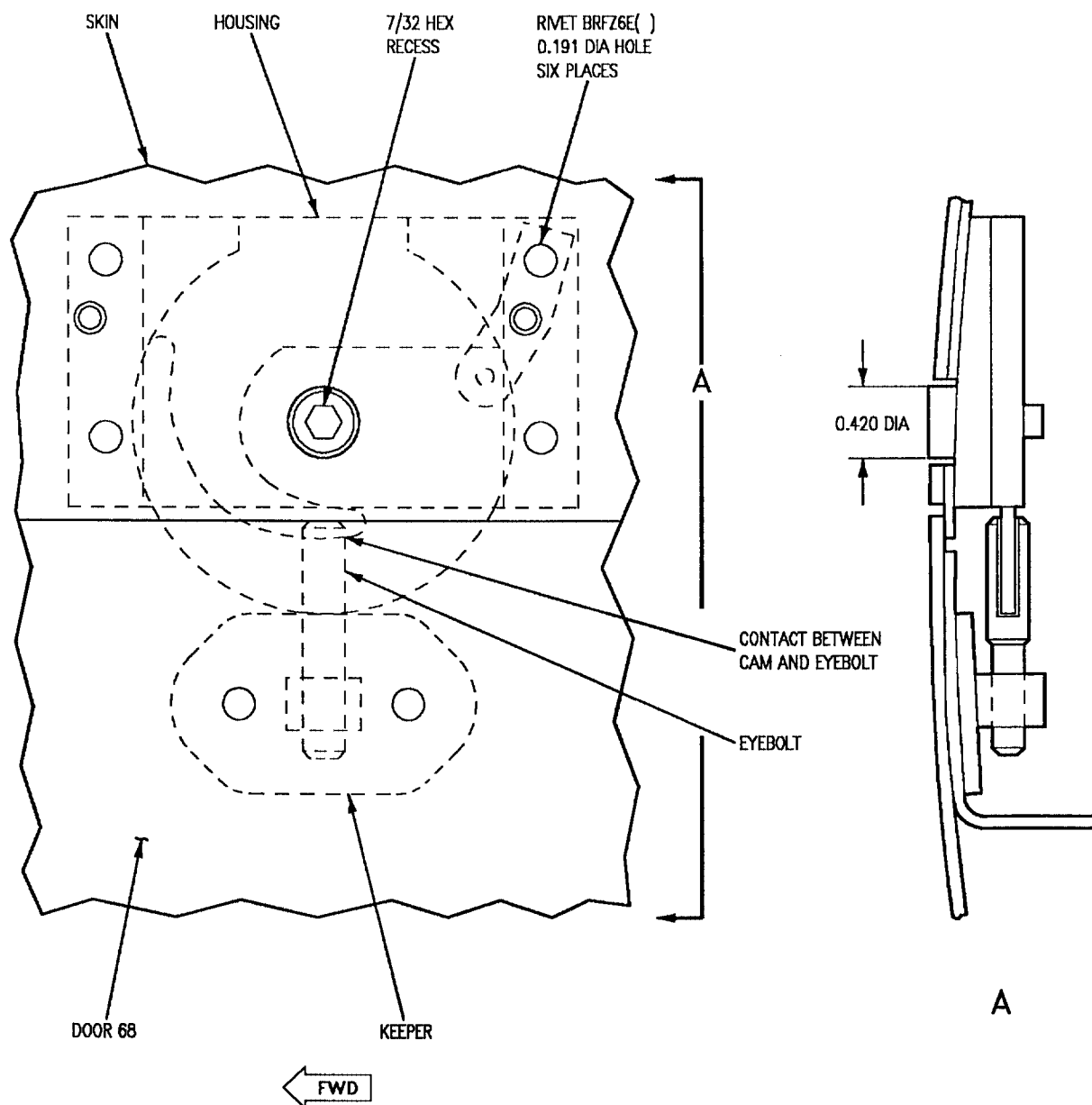


Figure 16. Latch Assembly H2761-1 Replacement

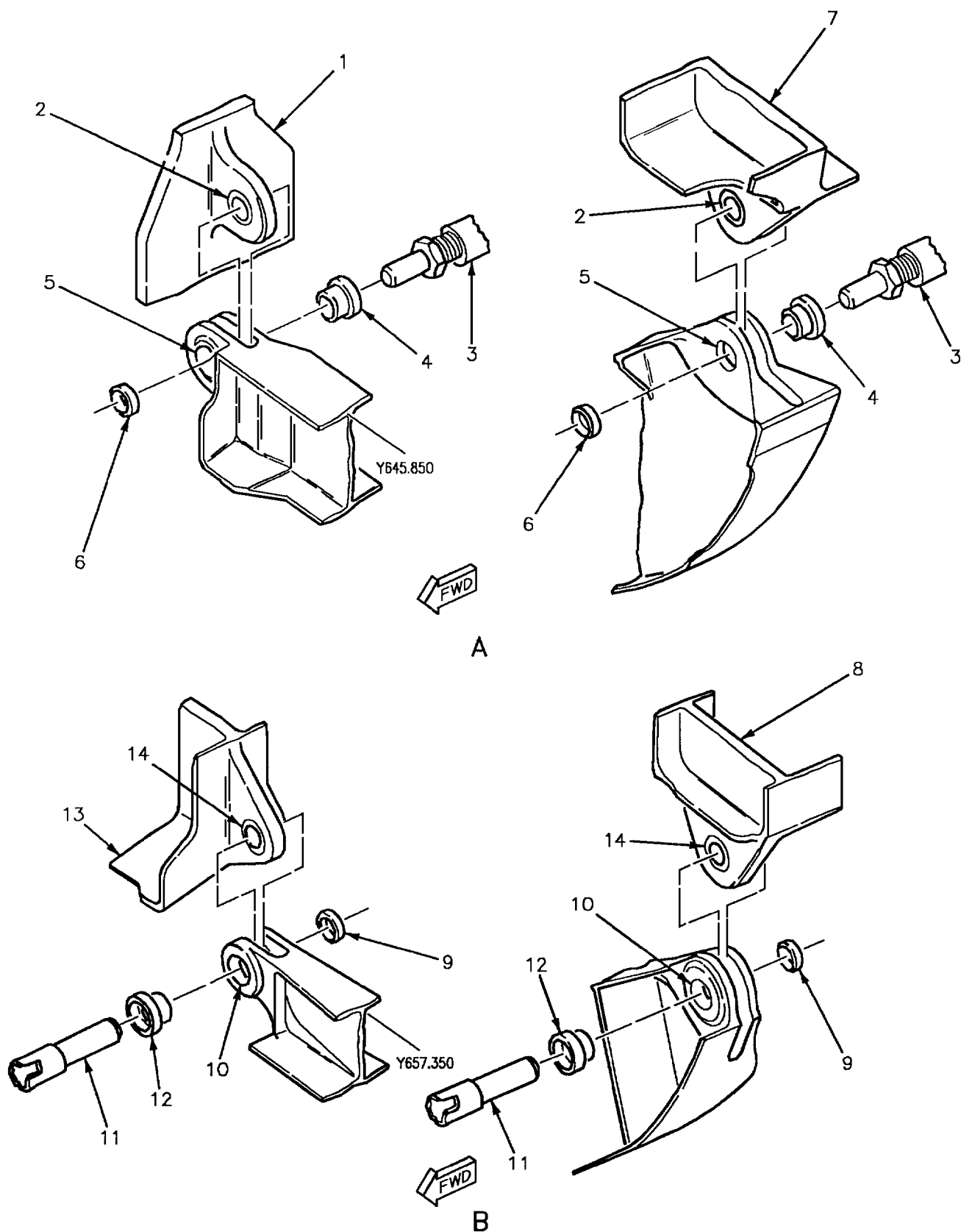


Figure 17. Wear Tolerances (Sheet 1)













DET	INDEX NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				MANUFACTURING	ALLOWABLE WEAR
A	1	74A332349 74A332359	FORMER FORMER	1.000+0.0010-0.0000	
	2	74A331645	BUSHING	0.6245+0.0022-0.0000 ID 1.0038+0.0000-0.0008 OD	+0.0015 
	3	A2791	LOCKSET ASSY	0.621+0.001-0.000	
	4	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0015 OD	+0.0015 
	5	74A331638	FORMER	0.8125 ± 0.0005	
	6	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0010 OD	+0.0015 
	7	74A331346 74A331356	FORMER FORMER	1.0000+0.0010-0.0000	
B	8	74A331351 74A331361	FORMER FORMER	1.0000+0.0010-0.0000	
	9	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0010 OD	+0.0015 
	10	74A331679	FORMER	0.8125 ± 0.0005	
	11	A2791	LOCKSET ASSY	0.621+0.001-0.000	
	12	74A331656	BUSHING	0.6245+0.0022-0.0000 ID 0.8152+0.0000-0.0015 OD	+0.0015 
	13	74A332345 74A332354	FORMER FORMER	1.0000+0.0010-0.0000	
	14	74A331645	BUSHING	0.6245+0.0022-0.0000 ID 1.0038+0.0000-0.0008 OD	+0.0015 
<p style="text-align: center;">LEGEND</p> <p> ALLOWABLE WEAR ON FUSELAGE LUG IS +0.0007 INCHES WHEN RE-INSTALLING EXISTING OR NEW BUSHINGS. BUSHING OUTER DIAMETER MUST BE WITHIN BLUEPRINT TOLERANCE FOR INSTALLATION.</p> <p> ALLOWABLE WEAR IS FOR INSTALLED BUSHING INNER DIAMETER ONLY. NO WEAR IS ALLOWED ON BUSHING OUTER DIAMETER.</p>					

Figure 17. Wear Tolerances (Sheet 2)

DEPOT MAINTENANCE
STRUCTURE REPAIR
CENTER ENGINE ACCESS DOOR (DOOR 68)
AND FORWARD SECTION OF COMBINED ENGINE ACCESS DOOR (DOOR 68)
MAINTENANCE FIXTURE, RE174330621-1,-2

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Center Engine Access Door (Door 68), Effectivity: 161353 THRU 161741	WP019 00
Combined Aft and Center Engine Access Door (Door 68), Effectivity: 161742 AND UP	WP019 01

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Verify Dimensions	8
Installation of Maintenance Fixture Into Maintenance Stands	2
Installation of Maintenance Stands For Use With Center Engine Access Door Maintenance Fixture	1

Record of Applicable Technical Directives

None

1. INSTALLATION OF MAINTENANCE STANDS FOR USE WITH CENTER ENGINE ACCESS DOOR MAINTENANCE FIXTURE. See figure 1.

a. Hoist maintenance stands (stands) with an overhead hoist attached to hoist fitting (detail 128).

b. Position stand as listed:

(1) Center stud bolts (detail 121) in slot in plate (detail 13C), view B.

(2) Distance between indentations in heads of stud bolts (detail 121) is 82.5 inches plus or minus 1 inch.

(3) Align centerline of spindles (detail 13) in line within 1.5 degrees of each other.

Support Equipment Required

Nomenclature	Part Number or Type Designation
---------------------	--

Hoist, Overhead	-
-----------------	---

Materials Required

Nomenclature	Specification or Part Number
---------------------	---

Bolts (12)	3/8-inch
------------	----------

c. Anchor each stand to floor with six 3/8-inch bolts.

d. Disengage L-pin (detail 14) from spindles (detail 13) rotate until plate (detail 13C) is parallel to floor with head of stud bolt (detail 121) up.

e. Reengage L-pin (detail 14) with spindles (detail 13).

f. Support the adjustable support (detail 12) with an overhead hoist attached to hoist fitting ring (detail 128), remove cotter pin (detail 110), two nuts (detail 111), washer (detail 112) from T-pin (detail 108), view C.

g. Remove T-pin (detail 108) from adjustable support (detail 12) and lower support (detail 11), view C.

h. Raise adjustable support (detail 12) until the upper surface of the plate (detail 13C) is 36.0 inches above floor. Re-install T-pin (detail 108) into lower support (detail 11) and adjustable support (detail 12), view C.

i. Install washer (detail 112), two nuts (detail 111), and cotter pin (detail 110) on T-pin (detail 108) and tighten nut (detail 111), view C.

j. Loosen jamnut (detail 115) and nut (detail 116) on eyebolt (detail 119), rotate eyebolt (detail 119) clear of plate (detail 13C), view A.

k. Swing upper plate (detail 101) clear of plate (detail 13C), view D.

l. Loosen jamnut (detail 115) and adjust nut (detail 114) to obtain a 0.40 inch preload dimension on disc springs (detail 117) two places each stand, view D.

m. Tighten jamnut (detail 115) after preload dimension is reached, two places each attend, view D.

2. **INSTALLATION OF MAINTENANCE
FIXTURE INTO MAINTENANCE
STANDS.** See figure 2.

Support Equipment Required

Nomenclature	Part Number or Type Designation
--------------	------------------------------------

Hoist, Overhead	-
-----------------	---

Materials Required

None

a. Hoist maintenance fixture (fixture) in the horizontal position with an overhead hoist attached to four hoist fittings (detail 142.)

WARNING

Inspect L-pins (detail 14) on maintenance stands (stands) to make sure they are fully engaged with spindle (detail 13). A disengaged spindle (detail 13) may rotate and could cause injury or damage to fixture.

b. Lower fixture aligning counter bores in end plates (detail 30) on fixture with stud bolt (detail 121) on stands, view A.

c. Swing upper plate (detail 101) on stand over end plate (detail 30) on fixture, view A.

d. Swing eyebolt (detail 119) down into slot in plate (detail 13C), tighten nut (detail 116) clamping fixture to stand and tighten jamnut (detail 115) to nut (detail 116) in place, view A.

e. Disconnect overhead hoist from four hoist fittings (detail 142) on fixture.

f. Rotate fixture, check to make sure it clears floor and stands.

3. **INSTALLATION OF DOOR INTO
MAINTENANCE FIXTURE.** See figures 2 and 3.

Support Equipment Required

None

Materials Required

None

a. Rotate maintenance fixture (fixture) to horizontal position (parallel to floor) with construction balls up and install L-pin (figure 2, detail 14) into spindle (detail 13) on maintenance stands (stands).

WARNING

Inspect L-pins (detail 14) on stands to make sure they are fully engaged with spindle (detail 13). A disengaged spindle (detail 13) may rotate and could cause personnel injury or damage to door fixture.

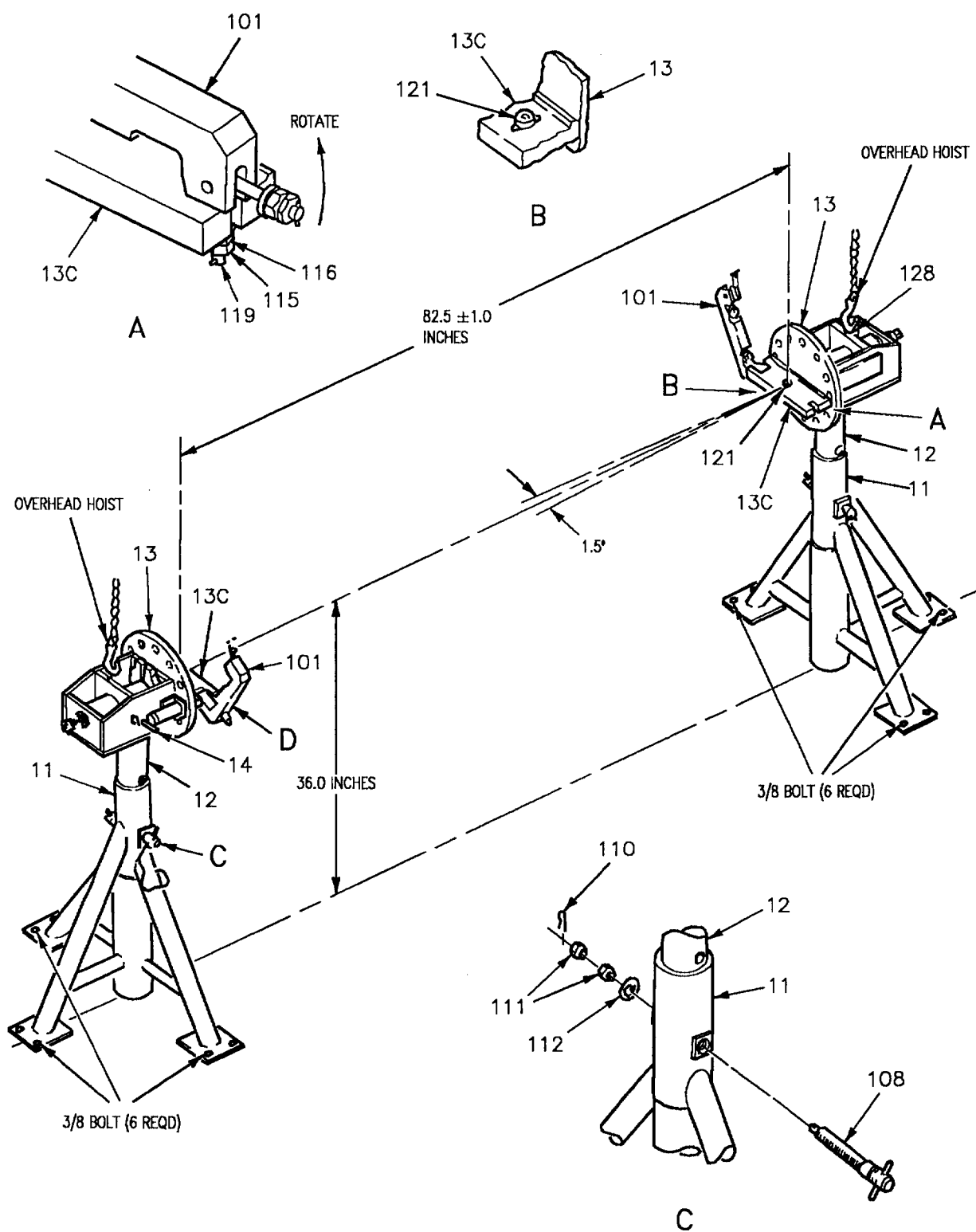
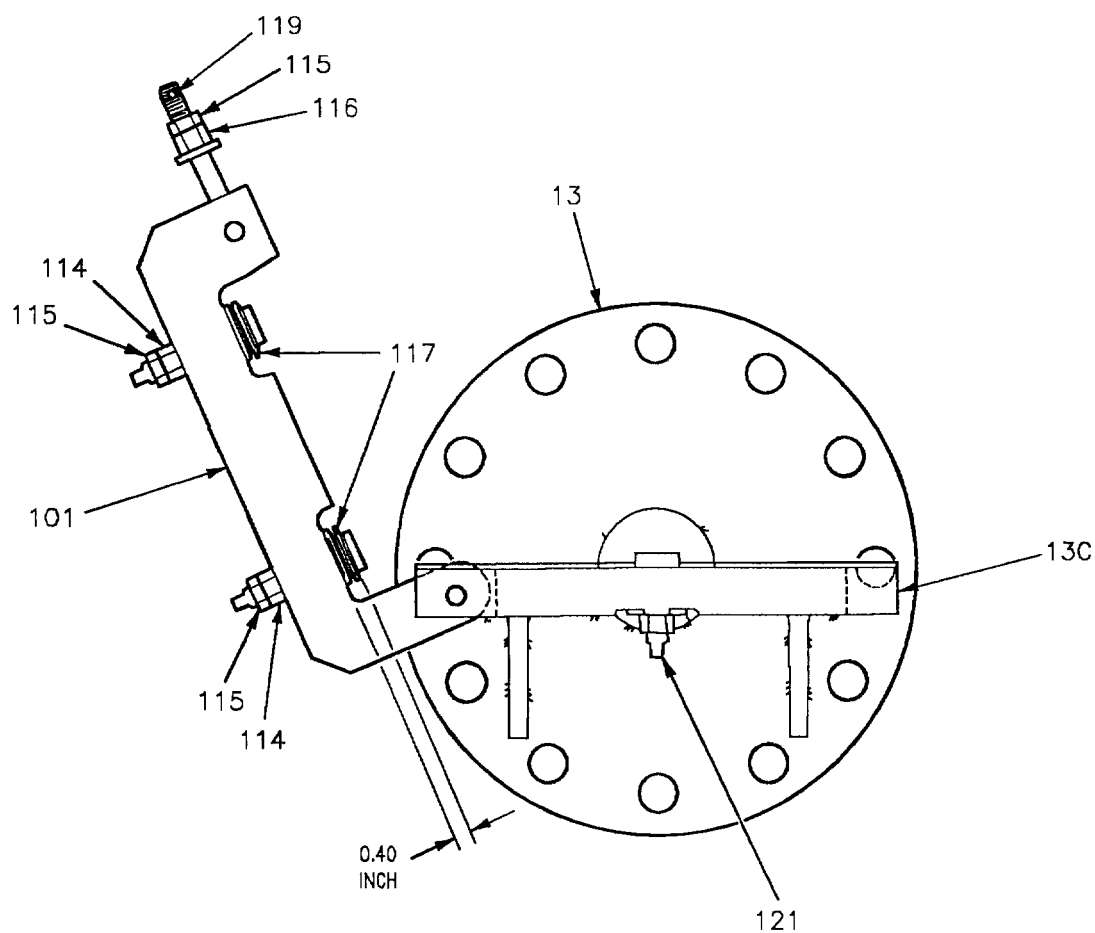


Figure 1. Installation of Maintenance Stands (Sheet 1)



D

Figure 1. Installation of Maintenance Stands (Sheet 2)

Detail No.	Name	Function
11	Lower support	Supports maintenance fixture.
12	Adjustable support	Supports maintenance fixture.
13	Spindle	Supports and rotates maintenance fixture.
13C	Plate	Supports and positions maintenance fixture.
14	L-Pin	Locates detail 13.
101	Upper plate	Secures maintenance fixture in place.
108	T-Pin	Locates details 11 and 12.
110	Cotter pin	Secures detail 108 in place.
111	Nut	Secures detail 108 in place.
112	Washer	Secures detail 108 in place.
114	Nut	Adjusts preload dimension for detail 117.
115	Jamnut	Secures details 114 and 116 in place.
116	Nut	Secures detail 119 in place.
117	Disc spring	Used for preload dimension.
119	Eye bolt	Secures detail 101.
121	Stud bolt	Aligns maintenance fixture.
128	Hoist fitting	Supports maintenance stands while hoisting.

Figure 1. Installation of Maintenance Stands (Sheet 3)

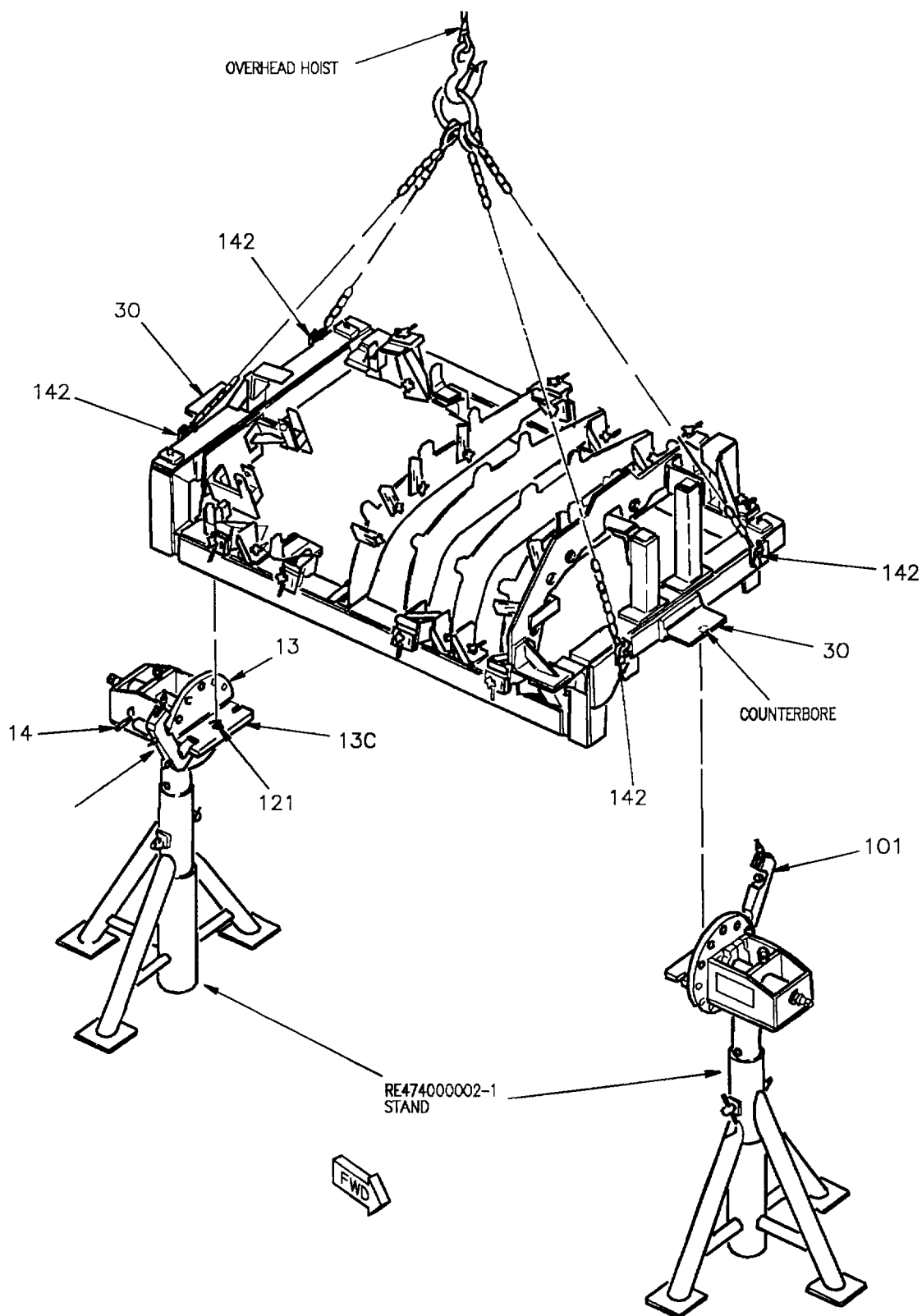
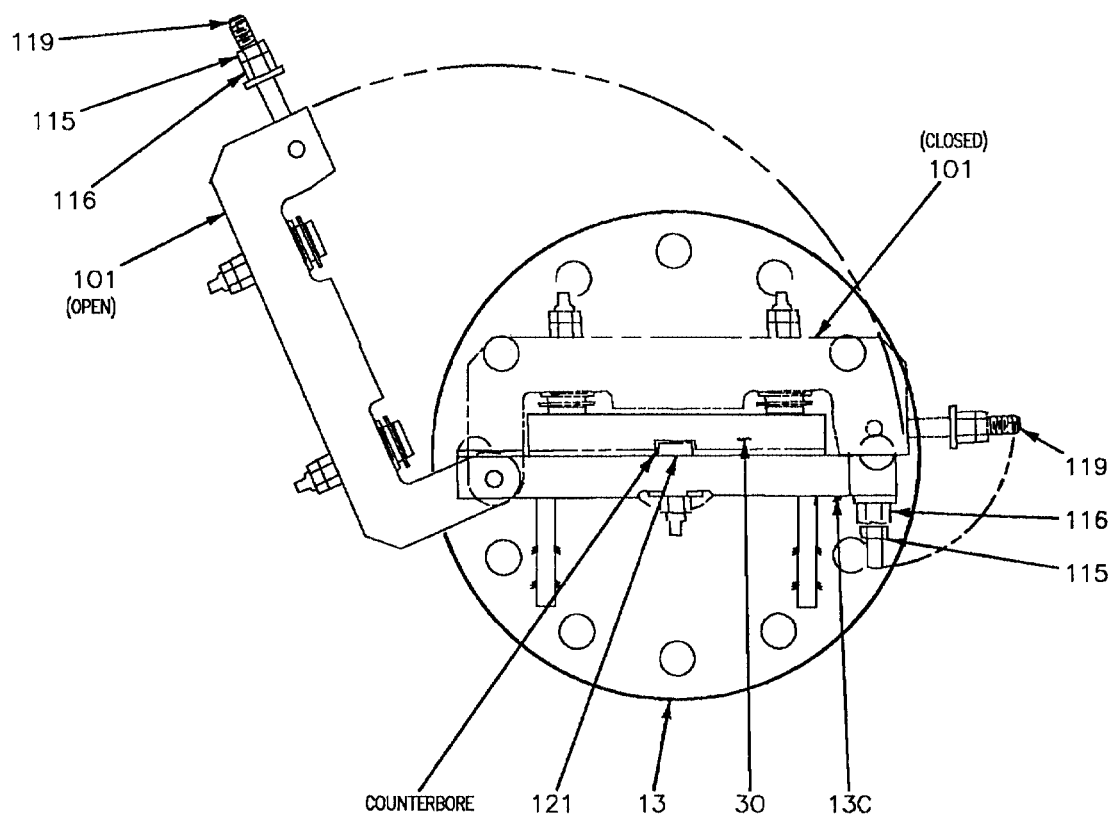


Figure 2. Installation of Maintenance Fixture (Sheet 1)



A

Detail No.	Name	Function
13	Spindle	Supports and rotates maintenance fixture.
13C	Plate	Supports and positions maintenance fixture.
14	L-pin	Locates detail 13.
30	End plate	Aligns and supports maintenance fixture.
101	Upper plate	Secures maintenance fixture in place.
115	Jamnut	Secures detail 116 in place.
116	Nut	Secures detail 119 in place.
119	Eye bolt	Secures detail 101.
121	Stud bolt	Aligns maintenance fixture.
142	Hoist ring	Used to hoist maintenance fixture.

Figure 2. Installation of Maintenance Fixture (Sheet 2)

b. Remove subassembly A, figure 3, sheet 2.

c. Remove subassembly D, sheet 2.

NOTE

Position details in steps d thru j to receive the door assembly.

d. Plates (details 143 and 144) on tooling plates (details 138 and 141), sheet 3.

e. Plates (detail 110) seven places, views E, F, G, M, N, and Q.

f. Weld assembly (detail 31) and weld assemblies (details 15 and 21), views E, F, and G.

g. Weld assemblies (detail 18) views M and Q and weld assembly (detail 19) view N.

h. Tooling plates (details 138, 139, 140, and 141), sheet 3.

i. Plate (detail 112), view H.

j. Plate (detail 104), view K.

k. Remove assembly (detail 154) from tooling plate (detail 140), sheet 2.

l. Remove plates (details 122 and 124), sheet 2.

4. PREPARE DOOR ASSEMBLY BEFORE LOADING. See figure 3, sheet 1 and steps listed:

a. Remove 74A501333 support.

b. Remove doors 131 and 134.

c. On 161353 THRU 161741, remove 74J338001 lockset assemblies (WP019 00).

d. On 161742 AND UP, do substeps listed:

(1) Remove 74A330667 bracket.

(2) Remove A2791 lockset assemblies (WP019 01).

(3) Remove aft section of door 68 at the 74A331679 former. For fasteners, door 68 replacement (WP019 01).

5. LOADING DOOR INTO MAINTENANCE FIXTURE. See figure 3 and steps listed:

a. Load door onto fixture, resting door on tooling plates (details 138, 139, 140, and 141), sheet 2.

b. Remove four pins (detail 105), views A, B, C and D.

c. Align clevis of formers, 74A331639 or 74A331679 and 74A331638, over plates (details 111 and 107), and angle (detail 118) and angle bracket (detail 106) and reinstall four pins (detail 105) to support door, views A, B, C, and D.

d. Turn swivel screw clamps (detail 120) to locate formers firmly against plates (details 111) and angle (detail 118), views A and D.

NOTE

Reposition details in steps e thru l to set up fixture in preparation for gap measurements.

e. Reinstall subassembly A, sheet 2.

f. Plates (details 143 and 144) on tooling plates (details 138 and 141) to nominal position, view T.

g. Plates (detail 110) to nominal position seven places, views E, F, G, M, N, and Q.

h. Weld assembly (detail 31) and weld assemblies (details 15 and 21) to nominal position, views E, F, and G.

i. Weld assemblies (details 18 and 19) to nominal position, views M, N, and Q.

j. Tooling plates (details 138, 139, 140, and 141) to nominal position, view U.

k. Plate (detail 104) to nominal position, view K.

l. Plate (detail 112) to nominal position, view H.

6. VERIFY DIMENSIONS. Verify dimensions for gap and rebuild points, as listed, and figure 3.

a. Gap between 74A331638 former and angle bracket (detail 106) and plate (detail 107) is 0.050 +0.0165 -0.0115, view B and C.

b. Gap between 74A331630 former and plates (detail 110) is net condition, view F and G.

c. Setback between 74A331630 former and plate (detail 110) is 0.125 ± 0.010 , view E.

d. Gap between 74331631 former and plates (detail 110) is net condition, view M.

e. Setback between 74A331631 former and plates (detail 110) is 0.125 ± 0.010 , views N and Q.

f. Gap between 74A331630 former and plate (detail 112) is net condition, view H.

g. Gap between 74A331631 former and plate (detail 104) is net condition, view K.

h. Gaps between 74A331629, 74A331624, 74A331628, and 74A331627 formers and tooling plates (details 138, 139, 140, and 141) is net condition, view U.

i. Setback between 74A331632, 74A331633, 74A331636, and 74A331637 stringers and plates (details 143 and 144) is 0.125 ± 0.030 , view T.

j. Gap between 74A331626 former and subassembly A is 0.160 ± 0.030 , view S.

k. Setback between 74A331626 former and weld assemblies (details 24 and 25) is 0.125 ± 0.010 , view P.

l. Verify match up of two pilot holes (Nos. 2 and 12) in 74A331630 former and two pilot holes (Nos. 18 and 32) in 74A331631 former with fixed bushings (detail 136), view R.

m. Remove subassembly A, sheet 2.

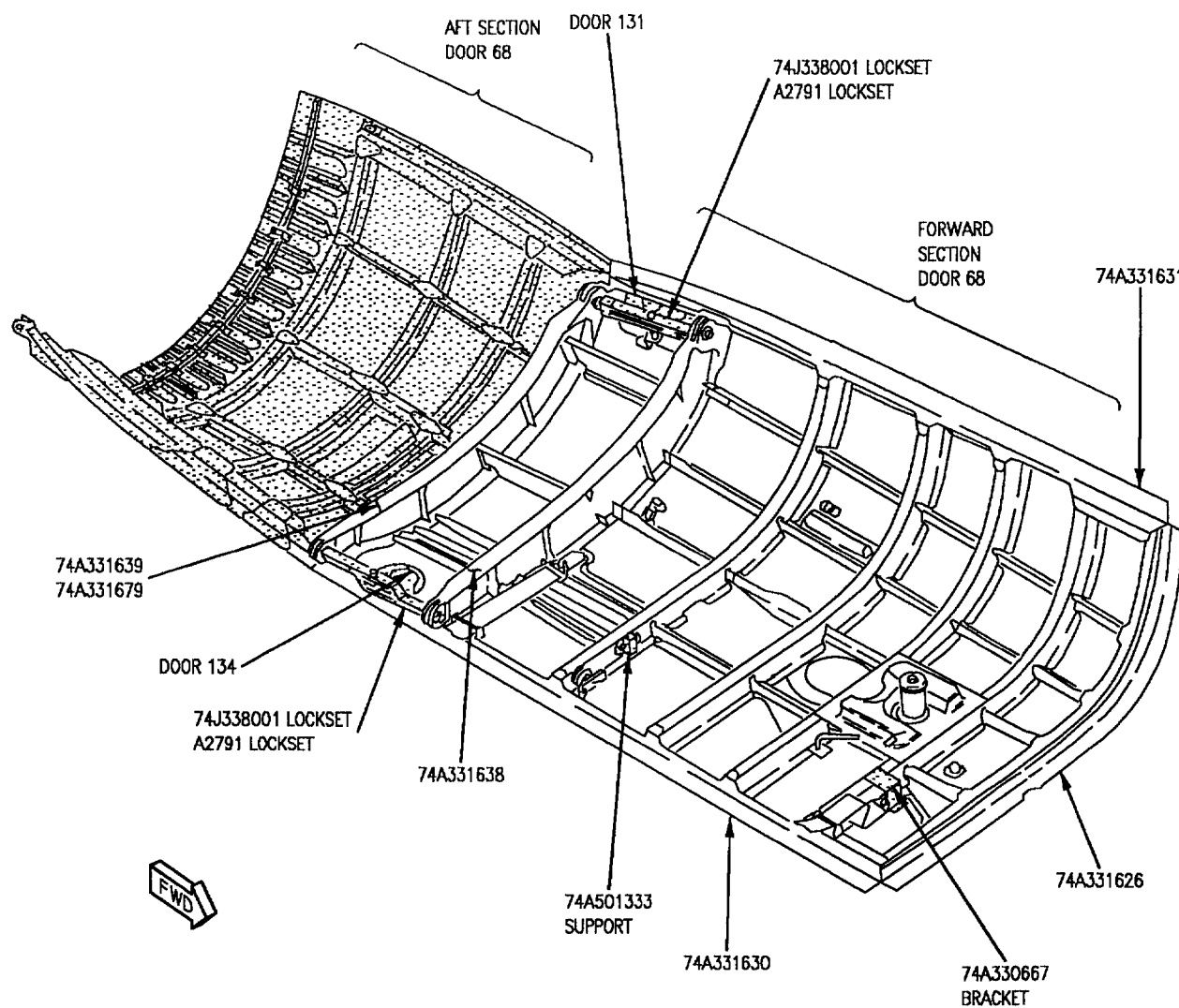


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 1)

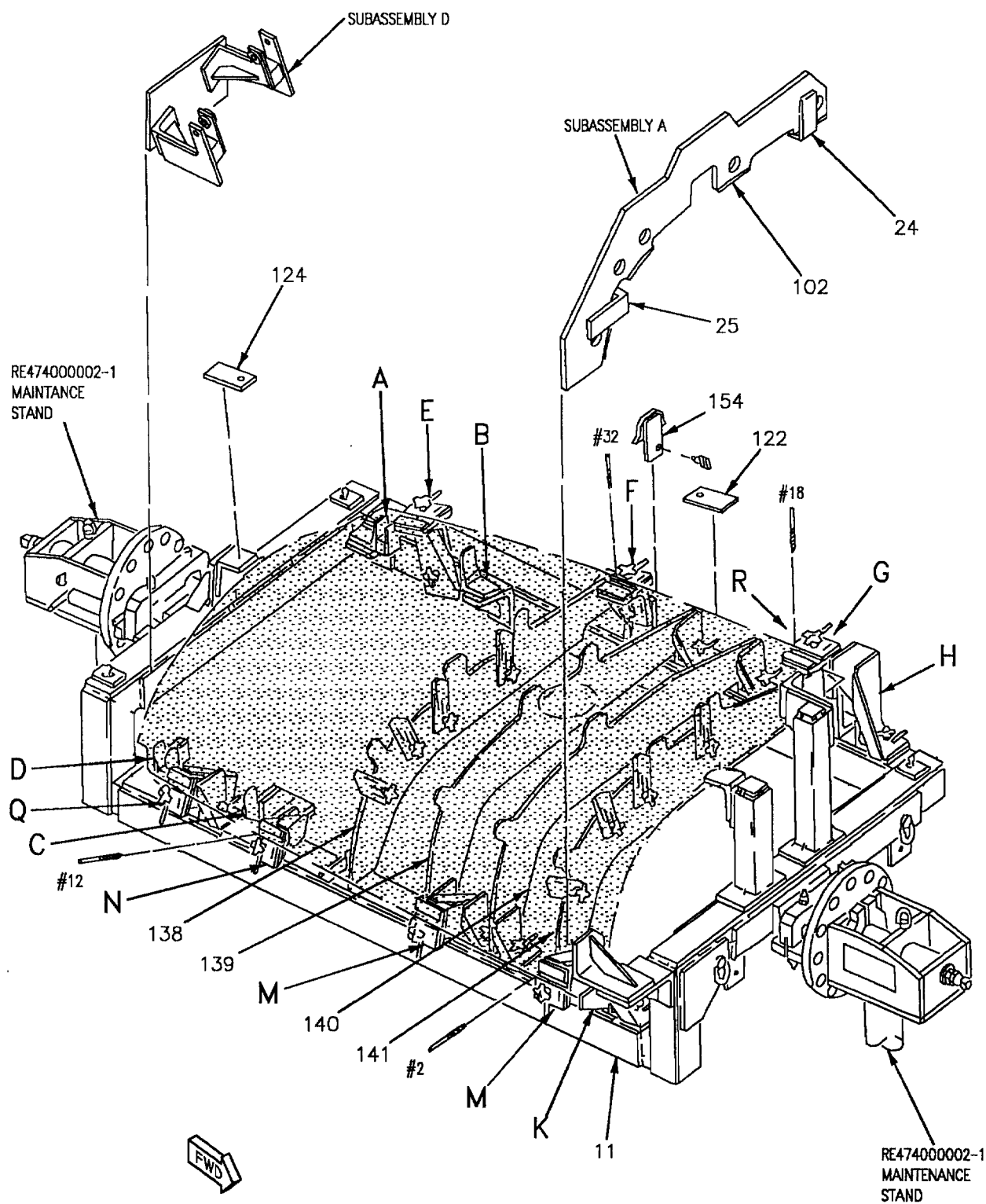


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 2)

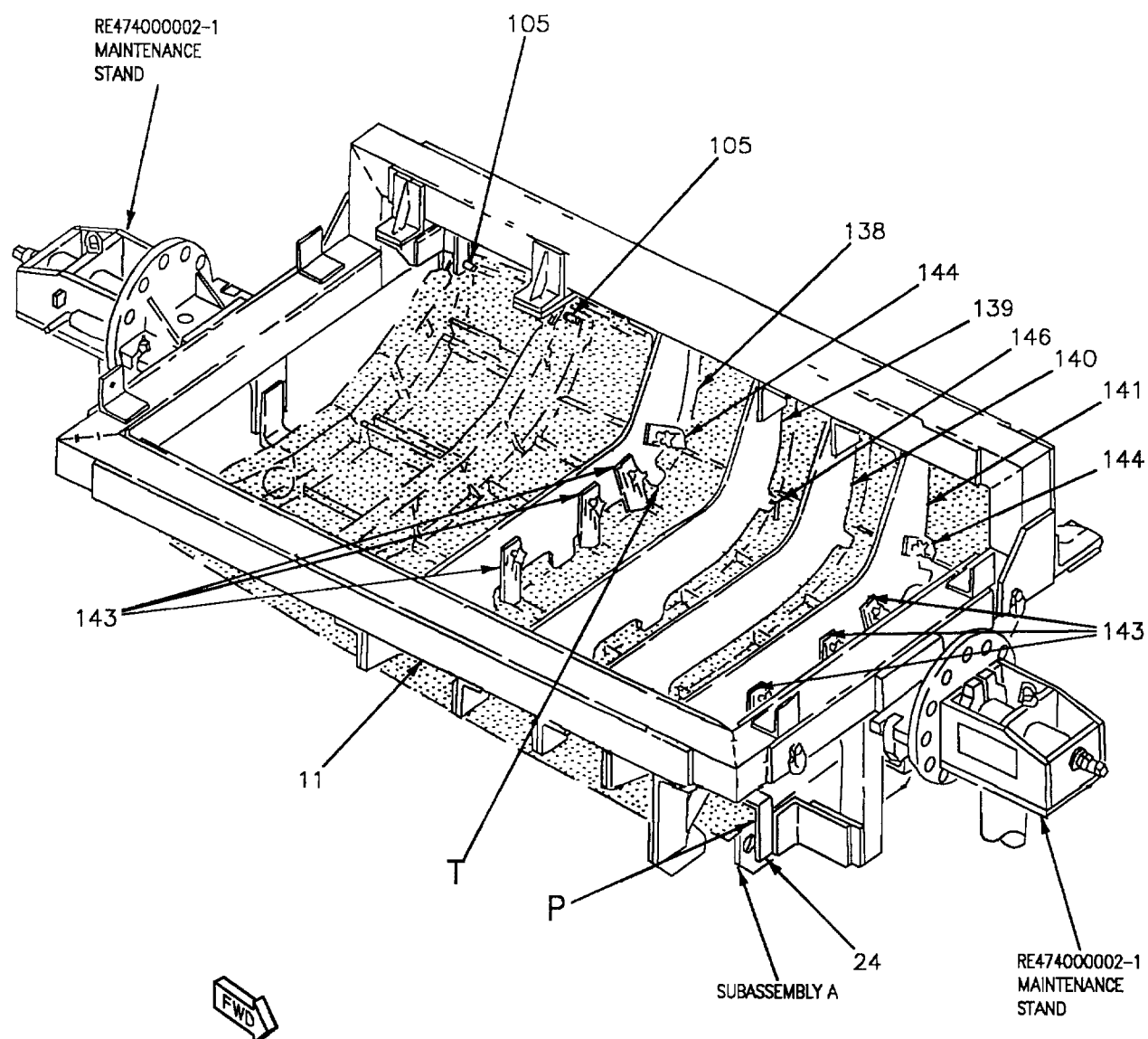


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 3)

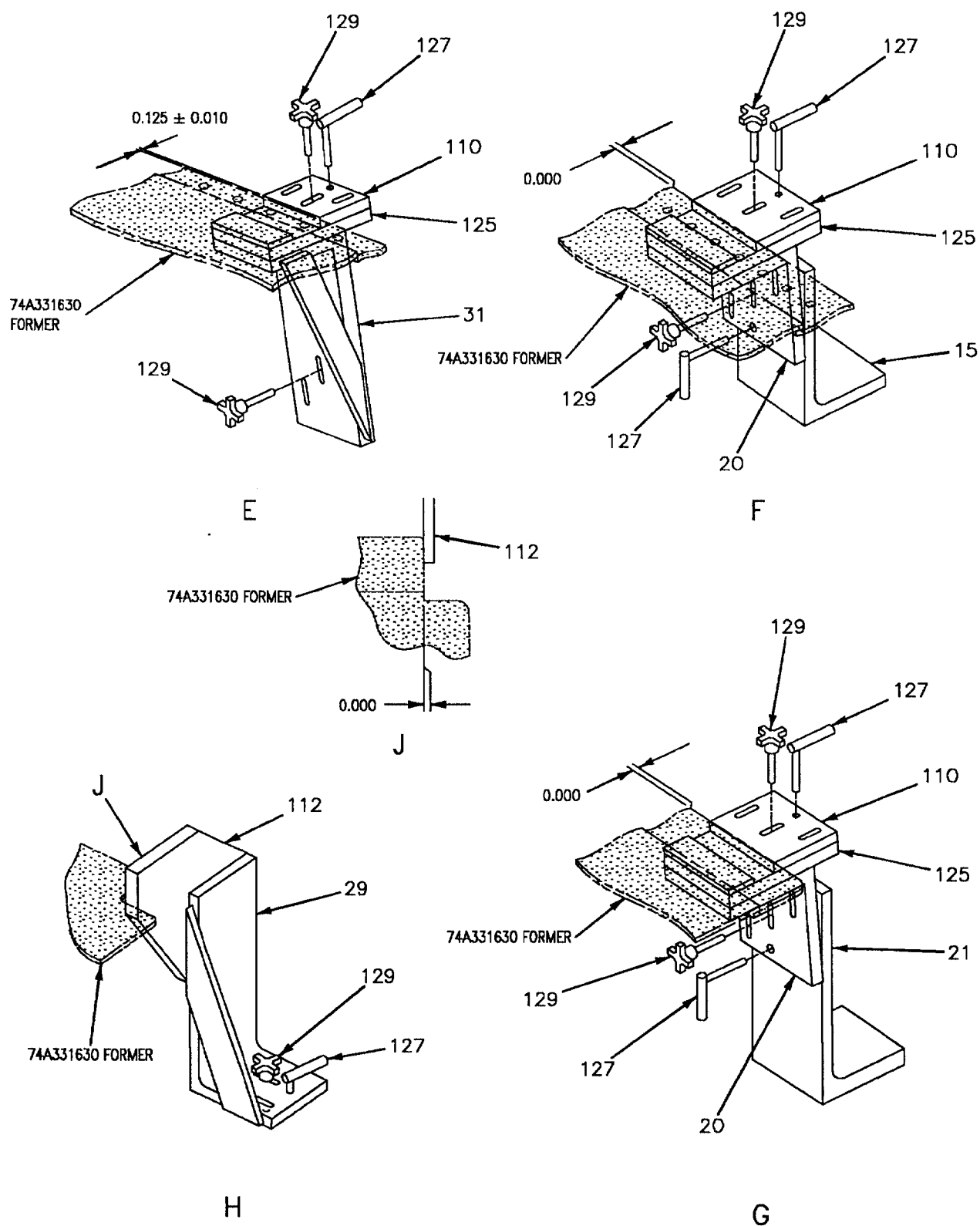


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 5)

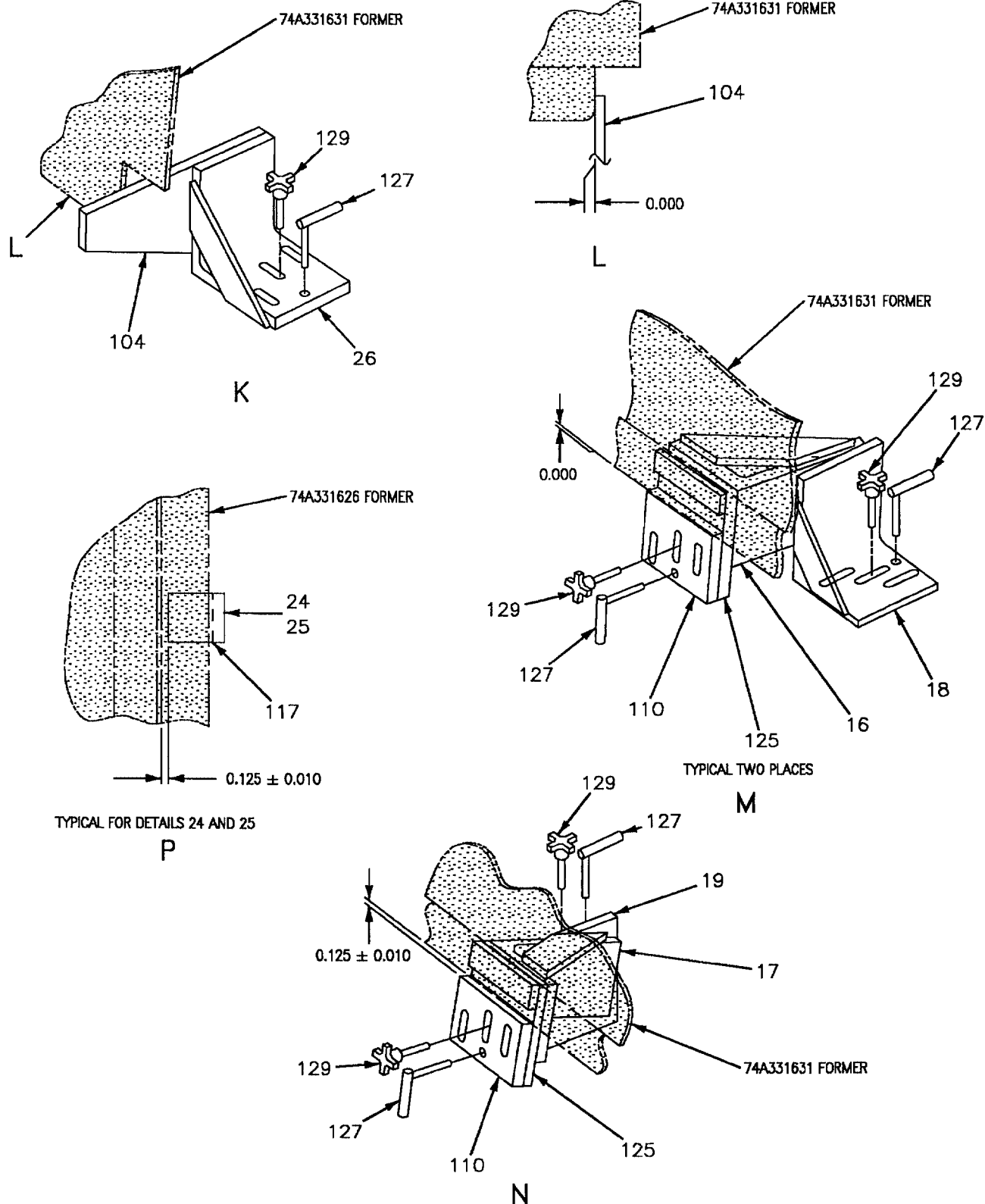


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 6)

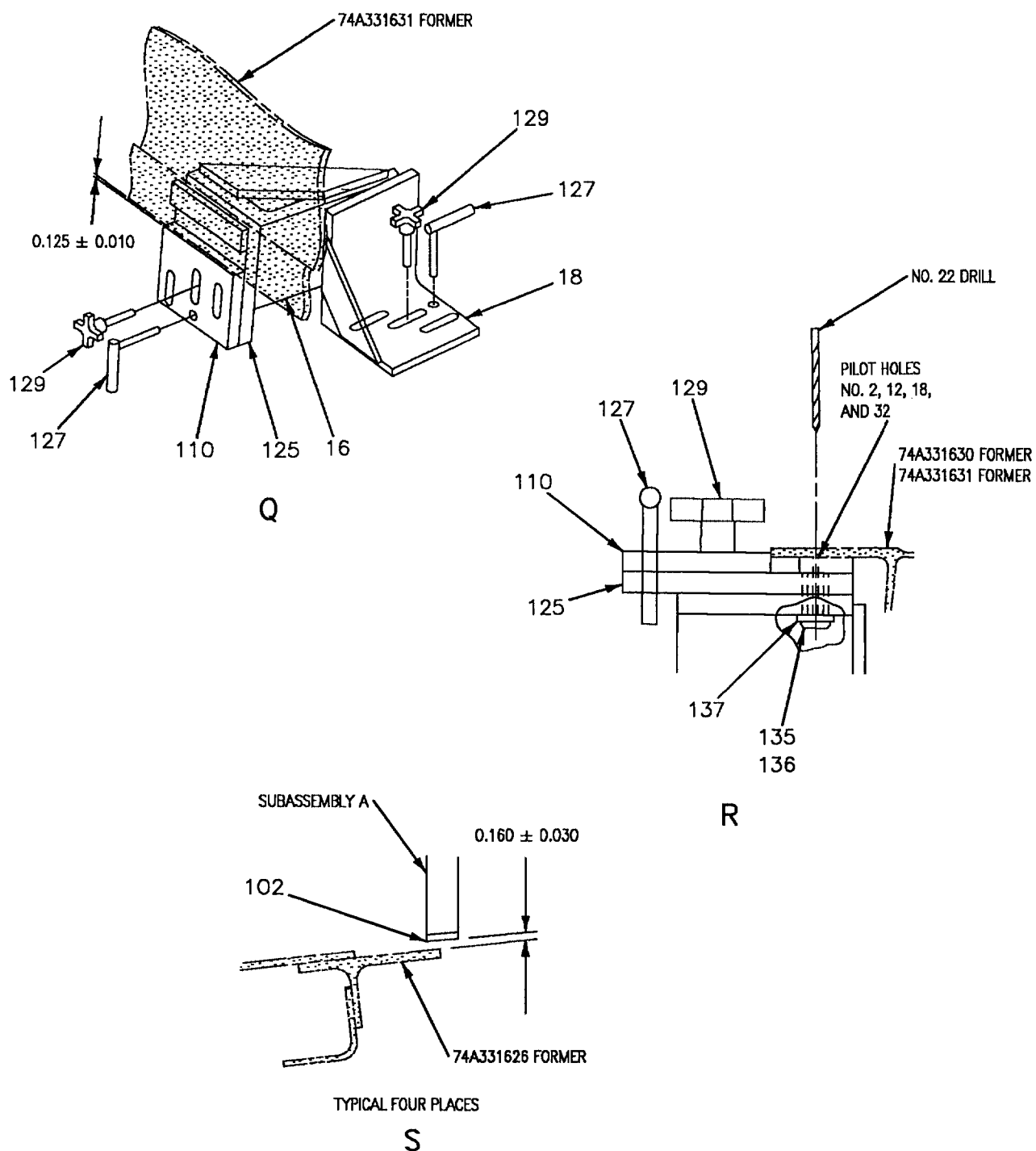
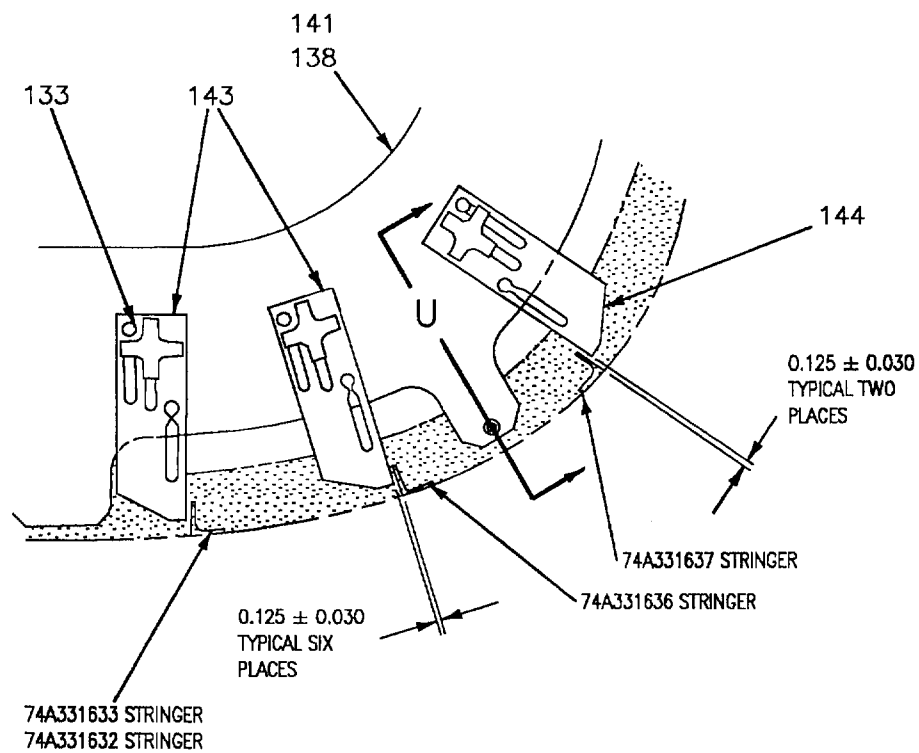


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 7)



T

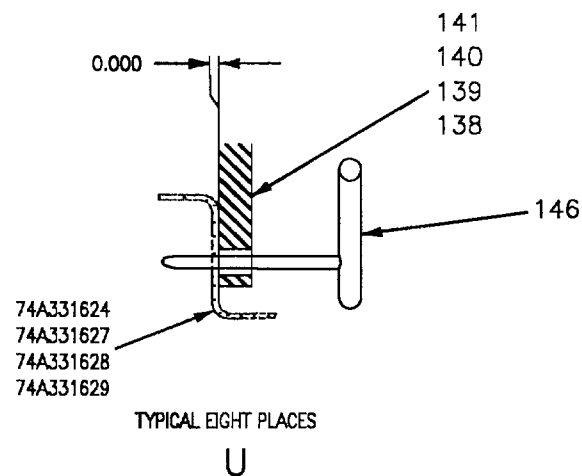


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 8)

Detail No.	Name	Function
Subassembly A	Locator	Locates and verifies alignment of 74A331626 cap.
Subassembly D	Locator	Locates attach points for 74A330685 and 74A330686 arms.
11	Frame assembly	Provides structural support for details.
12	Weld assembly	Supports detail 111.
13	Weld assembly	Supports detail 118.
14	Weld assembly	Supports detail 106.
15	Weld assembly	Supports detail 20 and 113.
16	Weld assembly	Supports detail 125.
17	Weld assembly	Supports detail 125.
18	Weld assembly	Supports detail 16.
19	Weld assembly	Supports detail 17.
20	Weld assembly	Supports detail 125.
21	Weld assembly	Supports detail 20.
24	Weld assembly	Detail of subassembly A.
25	Weld assembly	Detail of subassembly A.
26	Weld assembly	Supports detail 104.
29	Weld assembly	Supports detail 112.
31	Weld assembly	Supports detail 125.
102	Sheet	Protects epoxy surface on subassembly A.
104	Plate	Locates end of part of 74A331631 former.
105	Pin	Supports 74A331639 or 74A331679 and 74A331638 formers to details 106, 107, 111, 120, 116 and 118.
106	Angle bracket	Locates detail 105 to inboard side at 74A331638 former.
107	Plate	Locates detail 105 to outboard side of 74A331638 former.
108	Angle	Supports detail 107.
109	Angle	Supports detail 111.
110	Plate	Locates end of part of 74A331630 and 74A331631 formers. Holds L-pin and hand knob.
111	Plate	Supports outboard end of 74A331639 or 74A231679 former.
112	Plate	Locates end of part 74A331630.
115	Plate	Holds detail 120.

Figure 3. Installation of Door Into Maintenance Fixture (Sheet 9)

Detail No.	Name	Function
116	Plate	Holds detail 120.
117	Spacer	Used on subassembly A.
118	Angle	Locates inboard side of 74A331639 or 74A331679 former.
119	Bar	Separates details 118 from 116 and 111 from 115.
120	Swivel screw clamp	Used to tighten 74A331639 or 74A331679 former against details 111 and 118.
122	Plate	Locates tab on forward edge of skin. Holds details 121 and 147.
124	Plate	Locates tab on aft edge of replacement skin. Holds details 123 and 147.
125	Plate	Supports detail 110.
127	L-pin	Sets details in position.
129	Hand knob	Secures various details in position.
133	Shoulder screw	Used as slide guides for details 143 and 144.
135	Liner bushing	Locates detail 136.
136	Renewable bushing	Locates tooling points Nos. 2, 12, 18, and 32.
137	Lock screw	Secures detail 136.
138	Tooling plate	Used to set 74A331629 former.
139	Tooling plate	Used to set 74A331624 former.
140	Tooling plate	Used to set 74A331628 former.
141	Tooling plate	Used to set 74A331627 former.
143	Plate	Locates 74A331632, 74A331633, and 74A331636 stringers.
144	Plate	Locates 74A331637 stringer.
146	L-pin	Sets details in position.
154	Assembly	Used to set 74A331628 former.

Figure 3. Installation of Door Into Maintenance Fixture (Sheet 10)

DEPOT MAINTENANCE

STRUCTURE REPAIR

COMPONENTS, CENTER ENGINE ACCESS DOOR (DOOR 68) AND FORWARD SECTION
OF COMBINED ENGINE ACCESS DOOR (DOOR 68)

REPLACEMENT

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Center Engine Access Door (Door 68)	WP019 00
Combined Aft and Center Engine Access Door (Door 68)	WP019 01
Center Engine Access Door (Door 68) and Forward Section of Combined Engine Access Door (Door 68) Maintenance Fixture, RE174330621-1, -2	WP019 02
Center Engine Access Door (Door 68) or Combined Aft and Center Engine Access Door (Door 68), Fuselage Drop Link Bushing Drill Jig, RE174331670-1 and Bushing Replacement	WP019 04
Aircraft Corrosion Control	A1-F18AC-SRM-500
Priming Procedures	WP011 00
Aft Fuselage Finish System and Markings	WP036 00
Structure Repair, General Information	A1-F18AC-SRM-200
Fasteners	WP004 06
Oversize Fasteners	WP004 07
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00

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Support, 74A331670 Assembly, Replacement	9

Record of Applicable Technical Directives

None

1. REPAIR EVALUATION.

(1) Unless damaged, peripheral formers 74A331630, 74A331631, 74A331626, and 74A331639 or 74A331679 do not require replacement.

2. Analysis of door damage is required before a repair disposition can be made.

a. If door is to be reinstalled on the same aircraft:

(2) Unless damaged, bushings in the aft two formers need not be replaced. Replaced bushings are installed with the inner diameter undersize, and must be drilled and reamed to size to allow lockset installation.

b. If door is to be installed on another aircraft:

(1) Damaged and undamaged peripheral formers 74A331630, 74A331631, 74A331626, and 74A331639 or 74A331679 must be replaced and remain undrilled in the area of the milson fasteners.

(2) Damaged and undamaged bushings must be replaced. Replaced bushings are installed with the inner diameter undersize. Drill and ream to size on installation of door to aircraft (WP019 04).

3. **SKIN, 74A330622 REPLACEMENT.** This procedure is for skin replacement on doors reinstalled on the same aircraft. See figures 1 and 2.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Aircraft Structure	74D110325-1001
Repair Tool Kit	
Drill Motor, Hand	-
Maintenance Fixture	RE174330621-1, -2

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-83430, Class B-4

a. Load door into maintenance fixture (fixture) (WP019 02).

b. Remove fasteners attaching skin to structure, figure 2 details A, B, C, D, E, F, and G as applicable, using 74D110325 tool kit.

c. Remove skin from structure.

d. Retain shims and spacers, note locations for reinstallation.

e. Remove sealant from structure with scraper.



Isopropyl Alcohol

1

f. Clean area with clean cheesecloth moistened with isopropyl alcohol.

g. Install plates (details 122 and 124) on fixture, figure 1.

h. Position replacement skin tooling tabs with plates (details 122 and 124) into fixture and lock in place with L-pins (detail 147) two places, views T and U. Clamp skin to structure or fixture as required.

i. Mate drill holes in replacement skin, figure 2 details A, B, C, D, E, F, and G, as applicable.

j. Countersink holes using 74D110325 tool kit.

k. Remove L-pins (details 147) two places and plates (details 122 and 124) from fixture, figure 1, views T and U.

l. Remove replacement skin from fixture, figure 2.

m. Deburr holes and trim off tooling tabs from replacement skin.

n. Touch up holes and edge of skin in area of removed tooling tabs (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

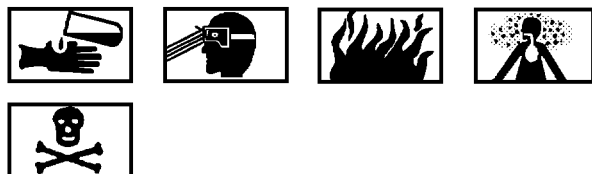
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o. Face surface seal replacement skin mating surfaces with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

p. Install shims and spacers at noted locations in step d.

q. Secure replacement skin to door structure with temporary fasteners. Maintain gap of 0.170 +0.030 -0.000 between skin and 74A331630 and 74A331631 formers.

r. Install permanent fasteners set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00), details A, B, C, D, E, F, and G, as applicable.



Isopropyl Alcohol 1

s. Remove excess sealing compound with clean cheesecloth moistened with isopropyl alcohol.

t. Remove door from fixture.

u. Reinstall 74A501333 support.

v. Reinstall doors 131 and 134 with new lanyards.

w. On 161353 THRU 161741 reinstall 74J338001 lockset assemblies (WP019 00).

x. On 161742 AND UP, do substeps listed:

(1) Reinstall 74A330667 bracket.

(2) Reinstall A2791 lockset assemblies (WP019 01).

(3) Reinstall aft section of door 68 to the 74A331679 former, for fasteners, door 68 replacement (WP019 01). Install fasteners (A1-F18AC-SRM-200, WP004 06). First oversize fasteners are permitted, oversize fasteners (A1-F18AC-SRM-200, WP004 07).

y. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

4. **SKIN 74A330622 AND FORMERS 74A331630, 74A331631, 74A331626 AND 74A331639 OR 74A331679 REPLACEMENT.** This procedure is for skin and peripheral formers replacement. See figures 1, 2 and 3.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Aircraft Structure	74D110325-1001
Repair Tool Kit	
Drill Motor, Hand	-
Maintenance Fixture	RE174330621-1, -2

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Nitrogen, Liquid	BB-N-411, Type I, Class 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-83430, Class B-4

a. Load door into maintenance fixture (fixture) (WP019 02).



When removing fastener 10, figure 3, detail P, do not drill through skin. Fastener is flush in former between skin and former.

b. Remove fasteners attaching 74A331639 or 74A331679 former to skin, figure 2, details A, B, C, and D, and mating structure, figure 3, details H, J, K, L, M, N, P, Q, and R.

c. Remove 74A331639 or 74A331679 former by removing door from fixture.

d. Install 74A331639 or 74A331679 former into fixture with pins (detail 105), figure 1, views N and P.

e. Install door into fixture.

f. Secure 74A331639 or 74A331679 former to fixture and mating structure.

NOTE

Milson fastener holes in former are drilled in door at door installation.

g. Mate drill all holes through skin and mating structure, countersink where required using 74D110325 tool kit.

h. Remove fasteners attaching 74A331630 former to skin, figure 2 details A and C, and mating structure, figure 3 details A, B, C and D as applicable.

i. Remove 74A331630 former.

j. Position 74A331630 former into fixture per dimensions shown in figure 1, views A, B, C, D, and E.

k. Secure 74A331630 former to fixture as required.

NOTE

Milson fastener holes in former are drilled in door at door installation.

l. Mate drill all holes through skin and mating structure, countersink where required using 74D110325 tool kit.

m. Remove fasteners attaching 74A331631 former to skin, figure 2 details B or D, and mating structure, figure 3, details E, F, and K.

n. Remove 74A331631 former.

o. Position 74A331631 former into fixture per dimensions shown in figure 1, views F, G, H, and J.

p. Secure 74A331631 former to fixture as required.

NOTE

Milson fastener holes in former are drilled in door at door installation.

q. Mate drill all holes through skin and mating structure. Countersink where required using 74D110325 tool kit.

r. Remove fasteners attaching 74A331626 former to skin, figure 2, details A, B, C, and D, and mating structure, figure 3, detail G.

s. Remove 74A331626 former.

t. Position 74A331626 former into fixture per dimensions shown in figure 1, views K and L.

u. Secure 74A331626 former to fixture as required.

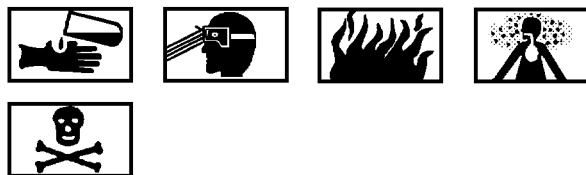
NOTE

Milson fastener holes in former are drilled on door at door installation.

v. Mate drill all holes through skin and mating structure. Countersink where required using 74D110325 tool kit.

w. Remove door from fixture.

x. Disassemble newly attached formers from door.



Isopropyl Alcohol

1

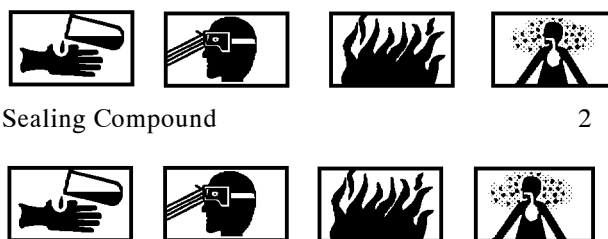
y. Deburr holes and clean area with clean cheesecloth moistened with isopropyl alcohol.

z. Touch up holes (A1-F18AC-SRM-500, WP011 00).

aa. Reassemble door and loose formers.

ab. Install door into fixture.

ac. Verify dimensions, figure 1, views A, B, C, D, E, F, G, H, J, K, L, M, N, and P.



Sealing Compound

2



Primer

10

NOTE

Do not install fasteners through skin at this time.

ad. Install pins and rivets set wet with MIL-S-83430 sealing compound except BRFS rivets which are set wet with primer, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

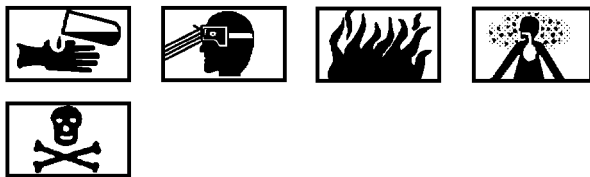
ae. Drill two number 22 pilot holes in the 74A331630 and 74A331631 formers, figure 1 detail M.

af. Remove remaining fasteners attaching skin to structure, figure 2 details A, B, C, D, E, F, and G as applicable, using 74D110325 tool kit.

ag. Remove skin from structure.

ah. Retain shims and spacers, note locations for reinstallation.

ai. Remove sealant from structure with scraper.



Isopropyl Alcohol

1

aj. Install plates (details 122 and 124) on to fixture, figure 1, sheet 1.

ak. Position replacement skin tooling tabs with plates (details 122 and 124) into maintenance fixture and lock in place with L-pins (detail 147) two places, views T and U. Clamp skin to structure of fixture as required.

al. Mate drill holes in replacement skin, figure 2 details A, B, C, D, E, F, and G as applicable.

am. Countersink holes using 74D110325 tool kit.

an. Remove L-pins (detail 147) two places and plates (details 122 and 124) from fixture, figure 1, views T and U.

ao. Remove replacement skin from fixture, figure 2.

ap. Deburr holes and trim off tooling tabs from replacement skin.

aq. Touch up holes and edge of skin in area of removed tooling tabs (A1-F18AC-SRM-500, WP011 00).

ar. Fay surface seal replacement skin mating surfaces with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

as. Position shims and spacers retained in step ah.

at. Position replacement skin to door structure with temporary fasteners. Maintain gap of 0.170 +0.030 -0.000 between skin and 74A331630 and 74A331631 formers.

au. Install permanent fasteners set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00), details A, B, C, D, E, F, and G as applicable.

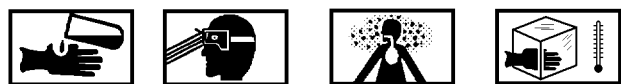
av. Remove excess sealant with clean cheesecloth moistened with isopropyl alcohol.

aw. Remove door from fixture.

ax. Reinstall 74A501333 support, figure 2, detail H.

ay. Reinstall doors 131 and 134 with new lanyards.

az. Remove and scrap 74A331656 bushings from the 74A331638 former, two places, figure 3, sheet 1. For bushing removal go to (WP019 04).



Liquid Nitrogen

22

ba. Cold shrink install 74A331656 bushings in the 74A331638 former, two places, figure 3. For bushing installation procedures, go to (WP019 04).

bb. On 161353 THRU 161741 refinish repaired area (A1-F18AC-SRM-500, WP036 00).

bc. On 161742 AND UP, do substeps listed:

(1) Reinstall 74A330667 bracket, figure 2, detail J.

(2) Reinstall aft section of door 68 to the 74A331679 former, only if former was not replaced, if former was replaced the holes for the aft skin attached to the 74A331639 or 74A331679 former are mate drilled after both forward and aft sections of door 68 have been installed on the aircraft. For fasteners, door 68 replacement (WP019 01). Install fasteners (A1-F18AC-SRM-200, WP004 06). First oversize fasteners are permitted, oversize fasteners (A1-F18AC-SRM-200, WP004 07).

bd. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

5. FORMERS 74A331624, 74A331627, 74A331628 AND 74A331629 REPLACEMENT. This procedure can replace one, two, three or four formers. See figures 1, 2, and 4.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Aircraft Structure Repair Tool Kit	74D110325-1001
Drill Motor, Hand	-
Maintenance Fixture	RE174330621-1, -2

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-83430, Class B-4

a. Load door into maintenance fixture (fixture) (WP019 02).

NOTE

When removing the 74A331627 or 74A331628 former, the 74A500601 cover must be removed. Fasteners are shown in figure 2, detail G. On 161353 THRU 161741, when removing the 74A331624 or 74A331629 former, the 74A330711 spacers and 74A331620 bracket must be removed, figure 4, detail J.

b. Remove fasteners attaching 74A331627, 74A331628, 74A331624, or 74A331629 formers to skin, figure 2, details A, B, C, and D, and mating structure, figure 4, details A, B, C, D, E, F, G, H, and J as applicable, using 74D110325 tool kit.

c. Remove formers from mating structure.

d. Retain shims and spacers, note locations for reinstallation.

e. Remove sealant from structure with scraper.

f. Set tooling plates (details 138, 139, 140 and 141) to nominal, figure 1, view V.

g. Position replacement formers into fixture.

h. Secure formers to tooling plates (details 138, 139, 140, and 141) with L-pins (detail 146) two places in each former, figure 1, view V.

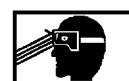
i. Verify dimensions, view W.

j. Mate drill all holes through skin and mating structure, countersink where required using 74D110325 tool kit.

k. Remove formers from fixture.

l. Deburr holes using 74D110325 tool kit.

m. Touch up holes (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

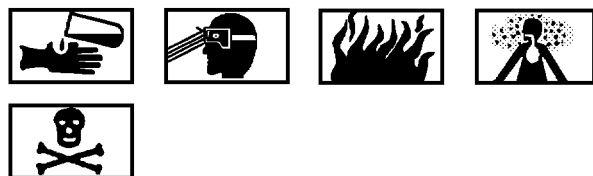
2

n. Fay surface seal structure mating formers with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

o. Install shims and spacers at noted locations in step d.

p. Install formers into fixture and mating structure with temporary fasteners.

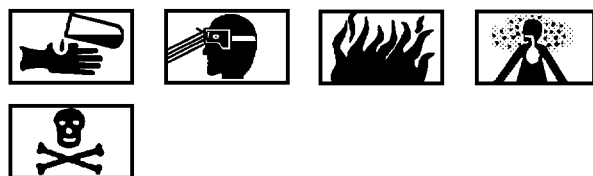
q. Verify dimensions, view W.



Primer

10

r. Install pins and rivets set wet with MIL-S-83430 sealing compound, except BRFS rivets which are set wet with primer, sealant preparation and application (A1-F18AC-SRM-200, WP011 00). Figure 2, details A, B, C, D, E, and F as applicable.



Isopropyl Alcohol

1

NOTE

When required, fay surface seal the 74A500601 cover with MIL S-83430 sealing compound and install fasteners set wet with MIL-S-83430 sealing compound as shown in figure 2, detail G. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00). Reservoir assembly requires a pressure check. Reservoir shall not leak with a pressure of $1 \pm 1/2$ PSIG applied internally for 10 minutes.

On 161353 THRU 161741 when required, fay surface seal the 74A330711 spacers and 74A331620 bracket with MIL-S-83430 sealing compound and install fasteners set wet with MIL-S-83430 sealing compound as shown in figure 4, detail J. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00). Refinish well area before installing above 74A330711 spacers and 74A331620 bracket (A1-F18AC-SRM-500, WP036 00).

s. Remove excess sealant with clean cheesecloth moistened with isopropyl alcohol.

t. Remove door from fixture.

u. Reinstall 74A501333 support, figure 2, detail H.

v. Reinstall doors 131 and 134 with new lanyards.

w. On 161353 THRU 161741, refinish repaired area (A1-F18AC-SRM-500, WP036 00).

x. On 161742 AND UP, do substeps listed:

(1) Reinstall 74A330667 bracket, figure 2, detail J.

(2) Reinstall aft section of door 68 to the 74A331679 former. For fasteners, door 68 replacement (WP019 01).

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

6. **FORMER 74A331638 REPLACEMENT.** This procedure can replace the 74A331638 former on doors that may or may not be installed on the same aircraft. See figures 1, 2, and 5.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Aircraft Structure	74D110325-1001
Repair Tool Kit	
Drill Motor, Hand	-
Maintenance Fixture	RE174330621-1, -2

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Nitrogen, Liquid	BB-N-411, Type I, Class 1
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-83430, Class B-4

a. Load door into maintenance fixture (fixture) (WP019 02).



When removing fastener in figure 5, detail A, index 1, caution should be used not to drill through skin. Fastener is flush in former between skin and former.

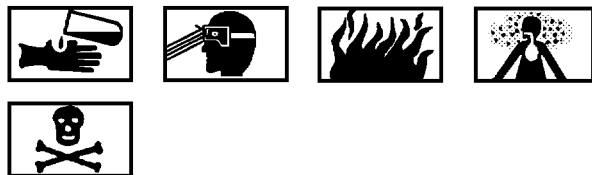
b. Remove fasteners attaching 74A331638 former, 74A331622 and 74A331632 stringers, aft of 74A331638 former, to skin as applicable, figure 2, details A, B, C and D; and mating structure, figure 5 details A, B, C, D, E and F as applicable.

c. Remove door from fixture.

d. Remove 74A331638 former and 74A331622, 74A331632 stringer from mating structure.

e. Retain shims and spacers; note locations for reinstallation.

f. Remove sealant from mating structure with scraper.



Isopropyl Alcohol

1

g. Clean area with clean cheesecloth moistened with isopropyl alcohol.

h. Position 74A331638 replacement former into door and secure in place.

i. Load door into fixture.

j. When verifying the 74A331638 former, shim to dimensions shown in figure 1, views Q and R and secure in place.

k. Mate drill all holes through skin and mating structure, countersink where required using 74D110325 Tool Kit.

l. Remove door from fixture.

m. Remove 74A331638 former from door.

n. Deburr holes and clean area with clean cheesecloth moistened with isopropyl alcohol.

o. Touch up holes (A1-F18AC-SRM-500, WP011 00).



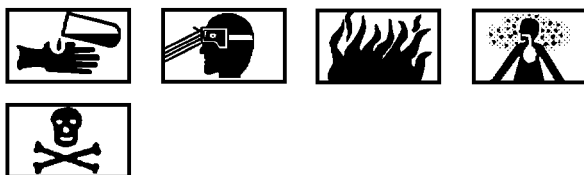
Sealing Compound

2

p. Fay surface seal structure as required with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00), and install shims and spacers as noted in step e.

q. Secure 74A331638 former, 74A331622 and 74A331632 stringers to door temporarily, as applicable.

r. Load door into fixture.



Primer

10

s. Install permanent fasteners set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00) except BRFS rivets which are set wet with primer, fasteners (A1-F18AC-SRM-200, WP004 06), figure 2, details A, B, C, and D and figure 5, details A, B, C, D, E, and F as applicable.

t. Remove excess sealant with clean cheesecloth moistened with isopropyl alcohol.

u. Remove door from fixture.

v. Reinstall 74A501333 support, figure 2, detail H.

w. Reinstall doors 131 and 134 with new lanyards.

x. Remove and scrap 74A331656 bushings from the 74A331639 or 74A331679 former as applicable, two places, figure 5, sheet 1. For bushing removal go to (WP019 04).



Liquid Nitrogen

22

y. Cold shrink install 74A331656 bushings in the 74A331639 or 74A331679 former, two places, figure 5. For bushing installation go to (WP019 04).

z. On 161353 THRU 161741, refinish repaired area (A1-F18AC-SRM-500, WP036 00).

aa. On 161742 AND UP, do substeps listed:

(1) Reinstall 74A330667 bracket, figure 2, detail J.

(2) Reinstall aft section of door 68 to the 74A331679 former, for fasteners, door 68 replacement (WP019 01). Install fasteners (A1-F18AC-SRM-200, WP004 06). First oversize fasteners are permitted, oversize fasteners (A1-F18AC-SRM-200, WP004 07).

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

7. SUPPORT, 74A331670 ASSEMBLY, REPLACE-MENT. See figures 1, 2, and 6.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Aircraft Structure Repair Tool Kit	74D110325-1001
C-Clamps (As Required)	-
Drill Motor, Hand	-
Maintenance Fixture	RE174330621-1, -2

Materials Required

	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-83430, Class B-4

a. Load door into maintenance fixture (fixture) (WP019 02).

b. Secure door to fixture with C-clamps.

NOTE

In the six 74A331622 stringers, on the forward side of the support assembly, remove the one fastener that passes through the stringer, support assembly and skin.

c. Remove fasteners attaching 74A331670 support assembly, 74A331622 and 74A331632 stringers to skin, figure 2, details A, B, C, and D as applicable.

d. Remove 74A331632 stringer. Retain shims and spacers, note locations for reinstallation.

e. Supporting skin, remove C-clamps, then remove skin and attaching structure from fixture. Retain shims and spacers, note locations for reinstallation.

f. Remove 74A331670 support assembly from fixture.

g. Position replacement 74A331670 support assembly into fixture with pins (detail 105), figure 1, views P, N, Q, and R.

h. Verify dimensions, figure 1, view P, N, Q, and R.

i. Position skin with attaching structure into fixture.

j. Secure to fixture and 74A331670 support assembly with temporary fasteners.

k. Verify dimensions, figure 1, views A, B, C, D, E, F, G, H, J, L, S, V, and W.

l. Secure 74A331632 stringer temporarily to door.

m. Mate drill all holes through skin.

n. Remove 74A331632 stringer from door.

o. Supporting skin, remove C-clamps, then remove skin and attaching structure from fixture.



Isopropyl Alcohol

p. Deburr holes and clean area with clean cheesecloth moistened with isopropyl alcohol.

q. Touch up holes (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

2

r. Fay surface seal structure as required with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

s. Position skin with attaching structure into fixture.

t. Secure skin to 74A331670 support assembly with temporary fasteners.

u. Install shims and spacers as noted in steps d and e.

v. Install 74A331632 stringer onto door with temporary fasteners.

w. Verify dimensions, figure 1, views A, B, C, D, E, F, G, H, J, K, L, S, V, and W.

x. Install permanent fasteners set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00), figure 2, details A, B, C, and D, as applicable.



Isopropyl Alcohol

1

y. Remove excess sealant with clean cheesecloth moistened with isopropyl alcohol.

z. Remove door from fixture.

aa. Reinstall 74A501333 support, figure 2, detail H.

ab. Reinstall doors 131 and 134 with new lanyards.

ac. On 161353 THRU 161741, refinish repaired area (A1-F18AC-SRM-500, WP036 00).

ad. On 161742 AND UP, do substeps listed:

(1) Reinstall 74A330667 bracket, figure 2, detail J.

(2) Reinstall aft section of door 68 to the 74A331679 former, only after both forward and aft sections of door 68 have been installed on the aircraft. For fasteners, door 68 replacement (WP019 01). Install fasteners (A1-F18AC-SRM-200, WP004 06). First oversize fasteners are permitted, oversize fasteners (A1-F18AC-SRM-200, WP004 07).

(3) Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

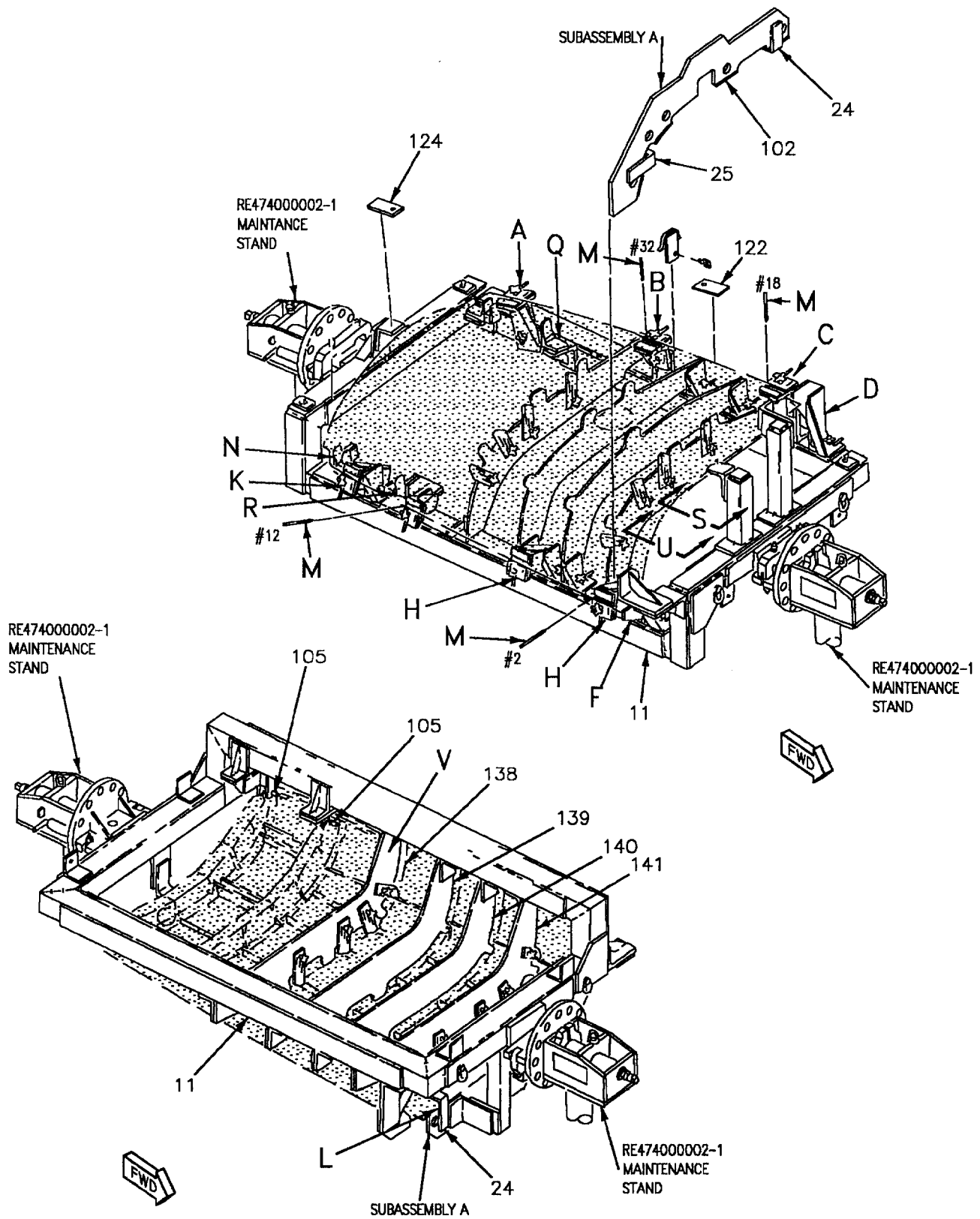


Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 1)

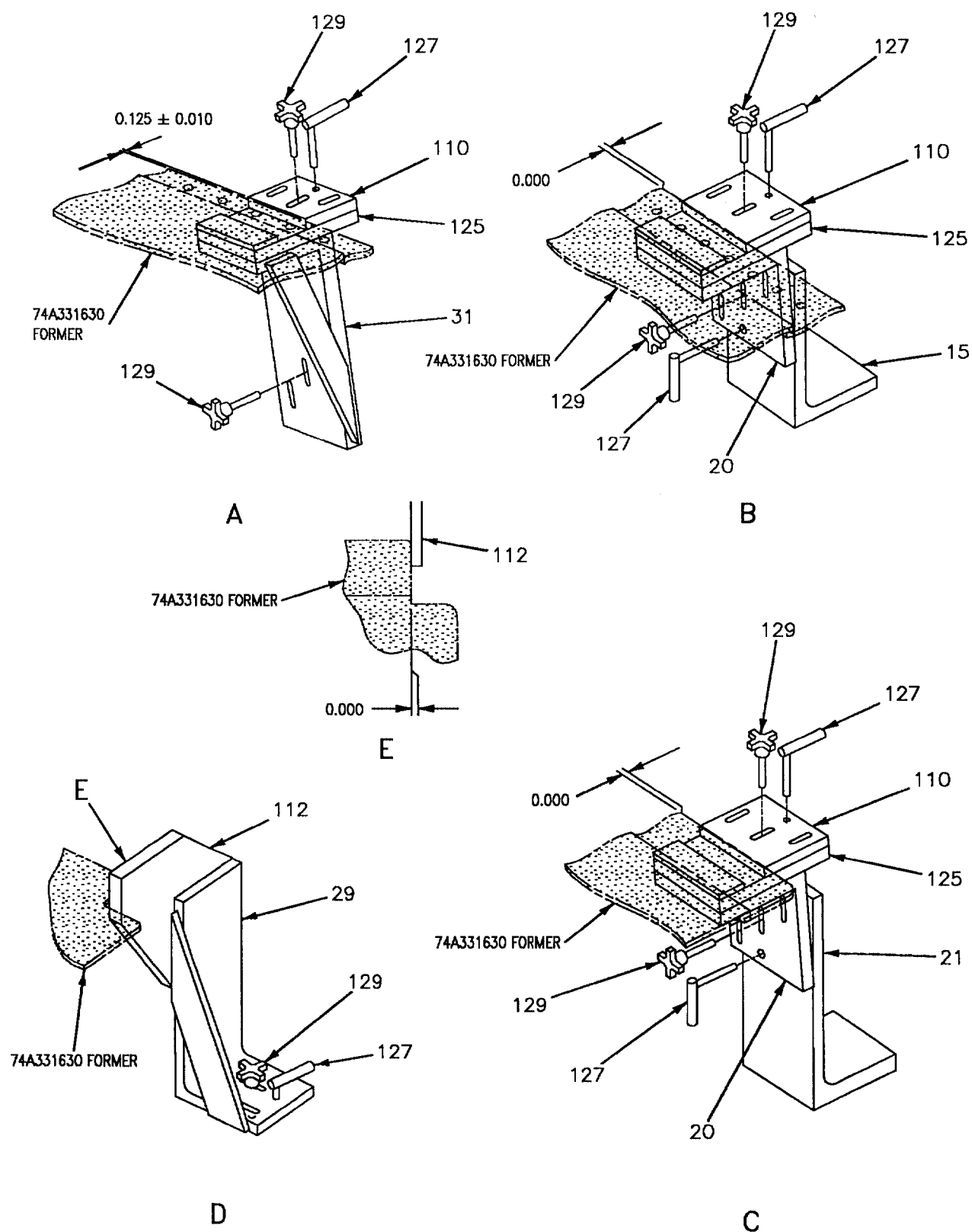


Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 2)

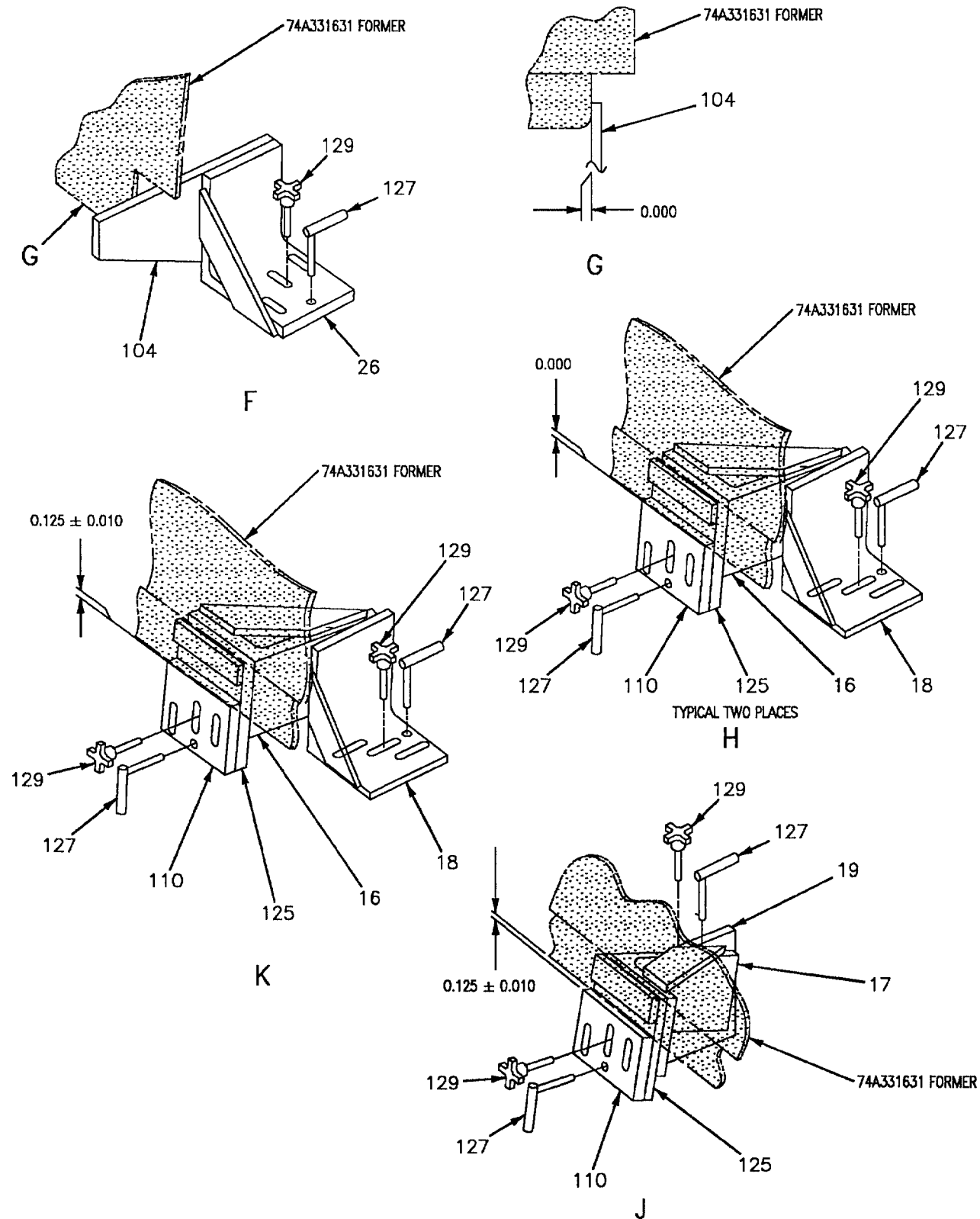


Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 3)

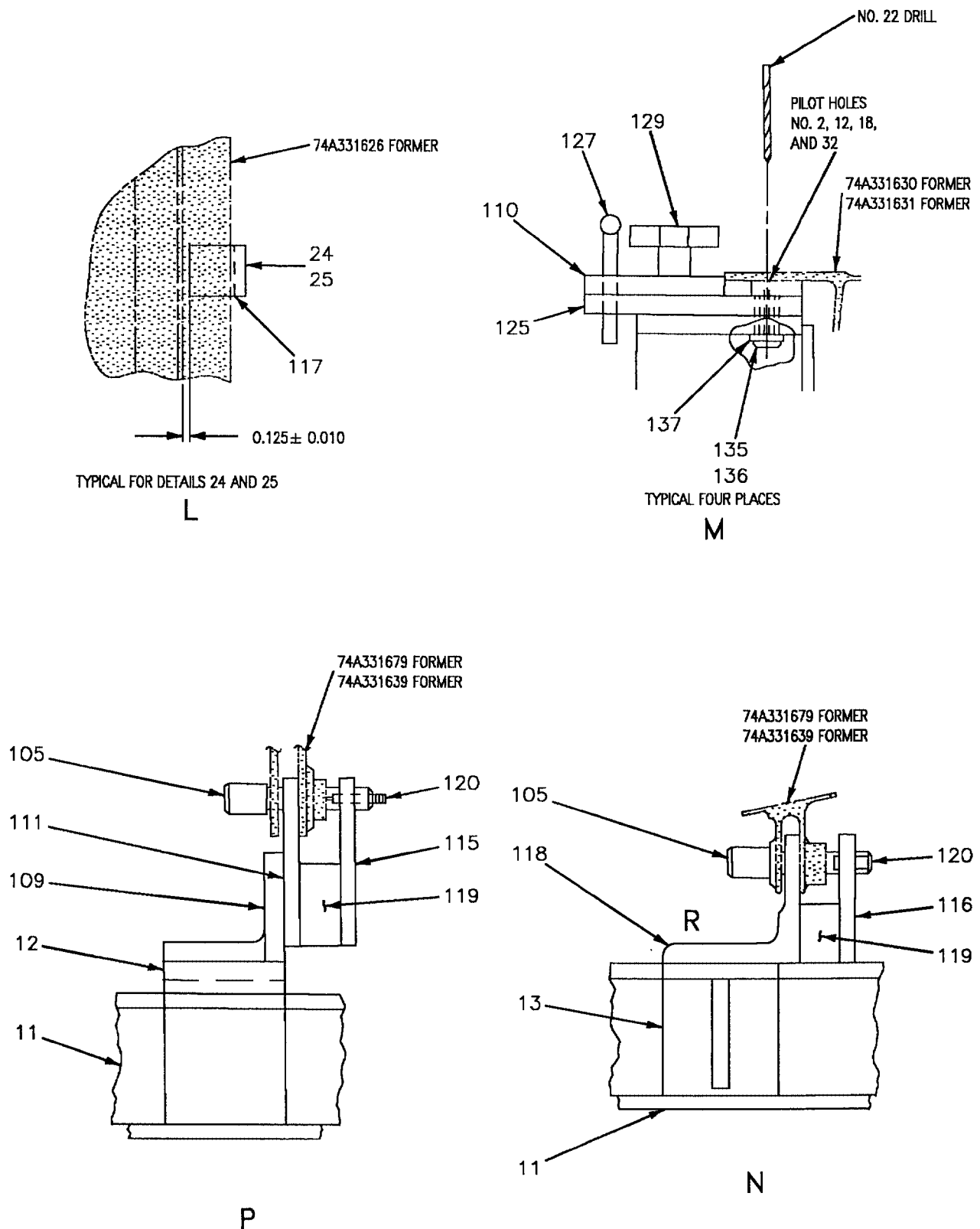


Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 4)

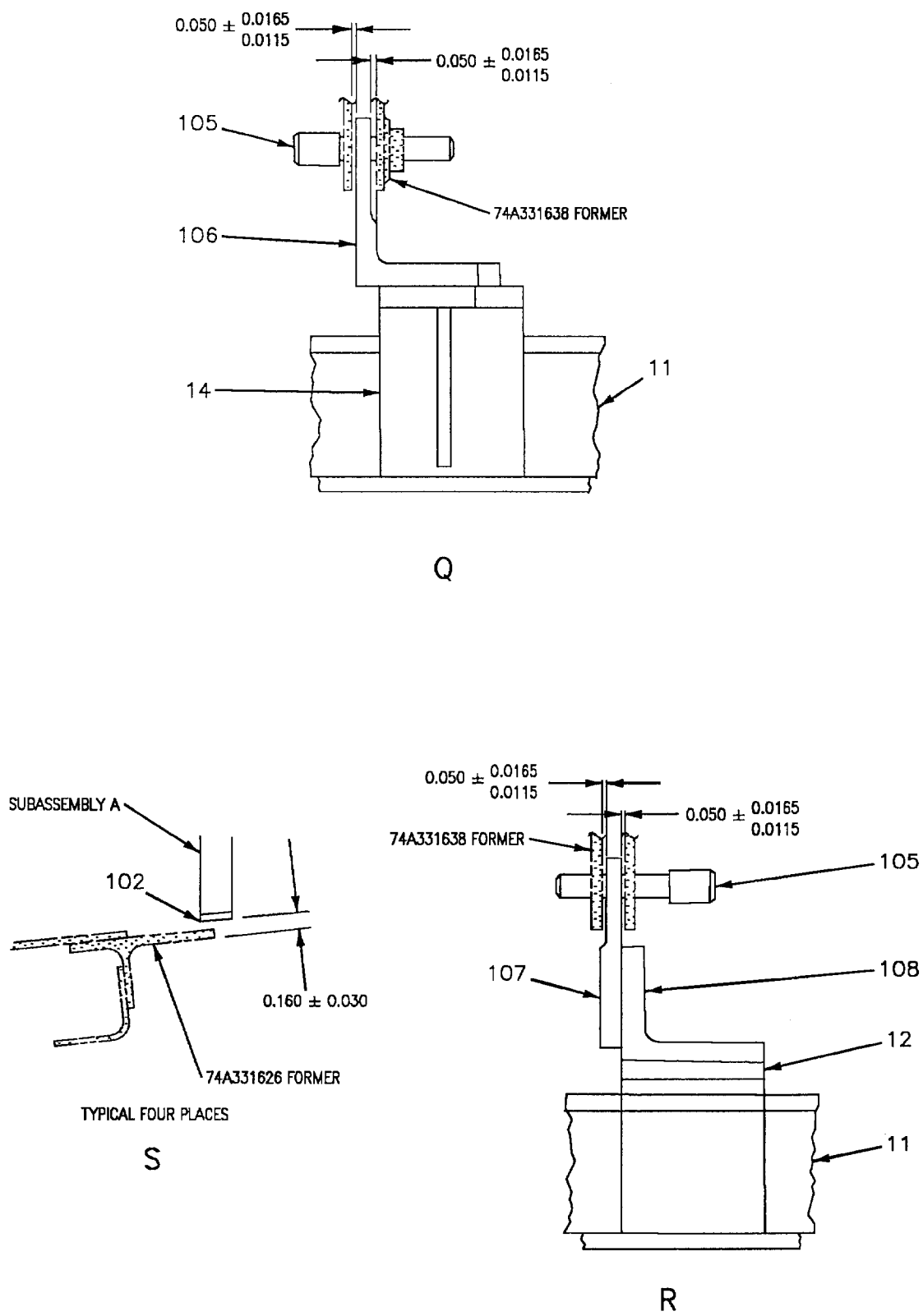


Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 5)

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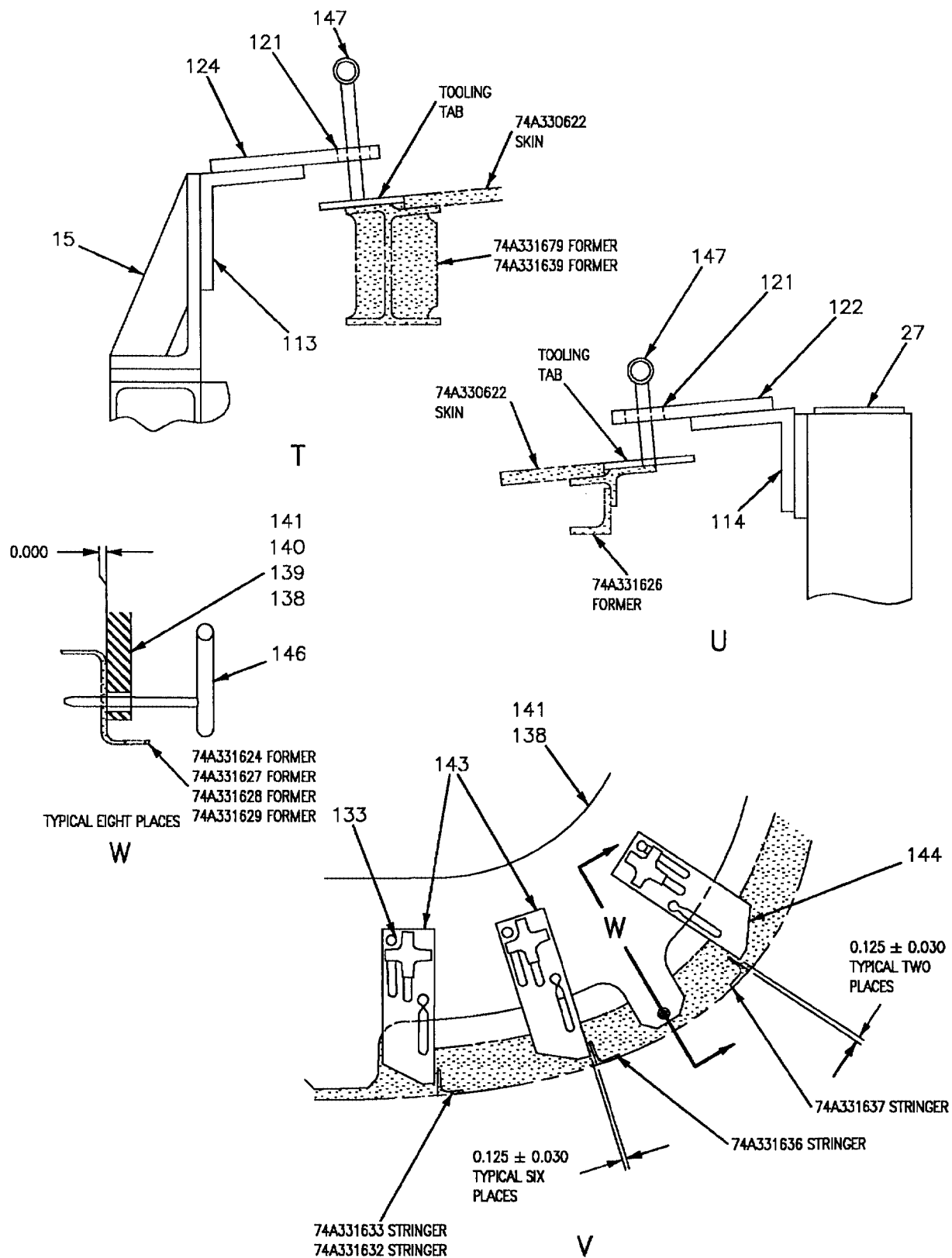


Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 6)

Detail No.	Name	Function
Subassembly A	Locator	Locates and verifies alignment of 74A331626 cap.
11	Frame assembly	Provides structural support for details.
12	Weld assembly	Supports detail 111.
13	Weld assembly	Supports detail 118.
14	Weld assembly	Supports detail 106.
15	Weld assembly	Supports detail 20 and 113.
16	Weld assembly	Supports detail 125.
17	Weld assembly	Supports detail 125.
18	Weld assembly	Supports detail 16.
19	Weld assembly	Supports detail 17.
20	Weld assembly	Supports detail 125.
21	Weld assembly	Supports detail 20.
24	Weld assembly	Detail of subassembly A.
25	Weld assembly	Detail of subassembly A.
26	Weld assembly	Supports detail 104.
27	Weld assembly	Supports detail 114.
29	Weld assembly	Supports detail 112.
31	Weld assembly	Supports detail 125.
102	Sheet	Protects epoxy surface on subassembly A.
104	Plate	Locates end of part of 74A331631 former.
105	Pin	Supports 74A331639 or 74A331679 and 74A331638 formers to details 106, 107, 111, 120, 116 and 118.
106	Angle bracket	Locates detail 105 to inboard side at 74A331638 former.
107	Plate	Locates detail 105 to outboard side of 74A331638 former.
108	Angle	Supports detail 107.
109	Angle	Supports detail 111.
110	Plate	Locates end of part of 74A331630 and 74A331631 formers. Holds L-pin and hand knob.
111	Plate	Supports outboard end of 74A331639 or 74A231679 former.
112	Plate	Locates end of part 74A331630.
113	Angle	Supports detail 124.

Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 7)

Detail No.	Name	Function
114	Angle	Supports detail 122.
115	Plate	Holds detail 120.
116	Plate	Holds detail 120.
117	Spacer	Used on subassembly A.
118	Angle	Locates inboard side of 74A331639 or 74A331679 former.
119	Bar	Separates details 118 from 116 and 111 from 115.
120	Swivel screw clamp	Used to tighten 74A331639 or 74A331679 former against details 111 and 118.
121	Bushing	Used to guide detail 147.
122	Plate	Locates tab on forward edge of skin. Holds details 121 and 147.
123	Bushing	Used to guide detail 147.
124	Plate	Locates tab on aft edge of skin. Holds details 123 and 147.
125	Plate	Supports detail 110.
127	L-Pin	Sets details in position.
129	Hand knob	Secures various details in position.
133	Shoulder screw	Used as slide guides for details 143 and 144.
135	Liner bushing	Locates detail 136.
136	Renewable bushing	Locates tooling points Nos. 2, 12, 18, and 32.
137	Lock screw	Secures detail 136.
138	Tooling plate	Used to set 74A331629 former.
139	Tooling plate	Used to set 74A331624 former.
140	Tooling plate	Used to set 74A331628 former.
141	Tooling plate	Used to set 74A331627 former.
143	Plate	Locates 74A331632, 74A331633, and 74A331636 stringers.
144	Plate	Locates 74A331637 stringer.
146	L-pin	Sets details in position.
147	L-pin	Sets skin in position.

Figure 1. Maintenance Fixture RE174330621-1, -2 Details for Skin and Formers Replacement (Sheet 8)

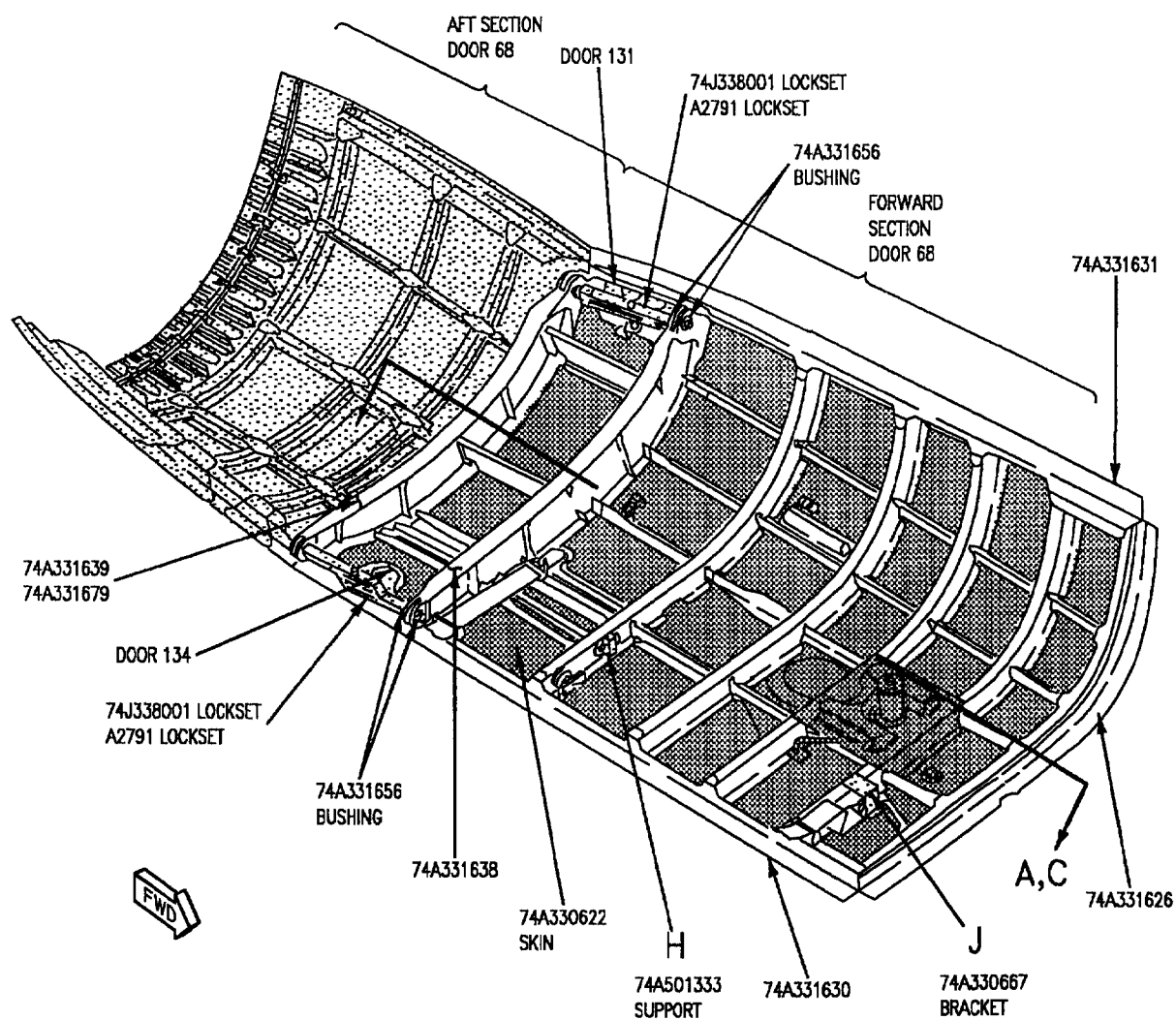


Figure 2. Skin 74A330622, Replacement (Sheet 1)

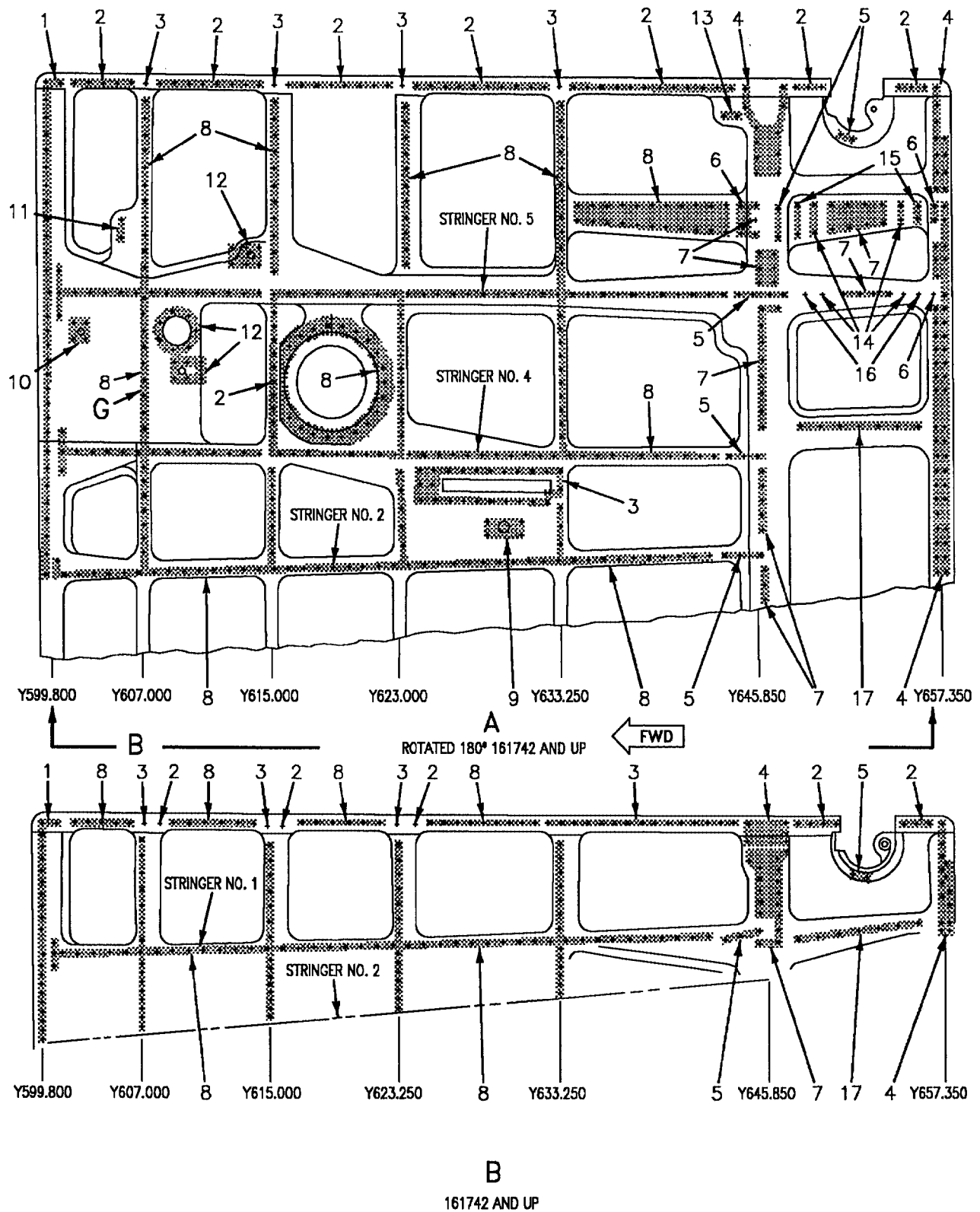


Figure 2. Skin 74A330622, Replacement (Sheet 2)

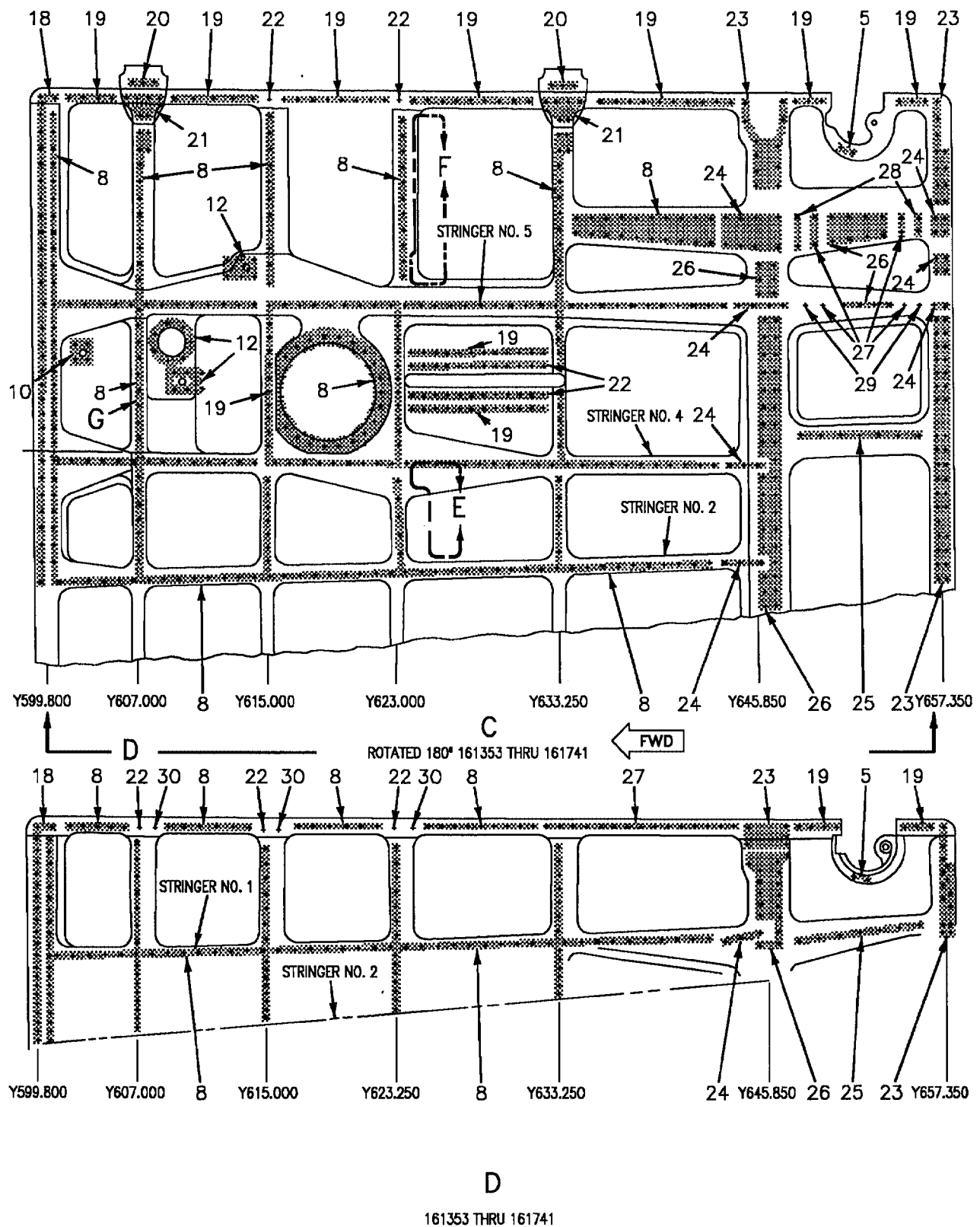


Figure 2. Skin 74A330622, Replacement (Sheet 3)

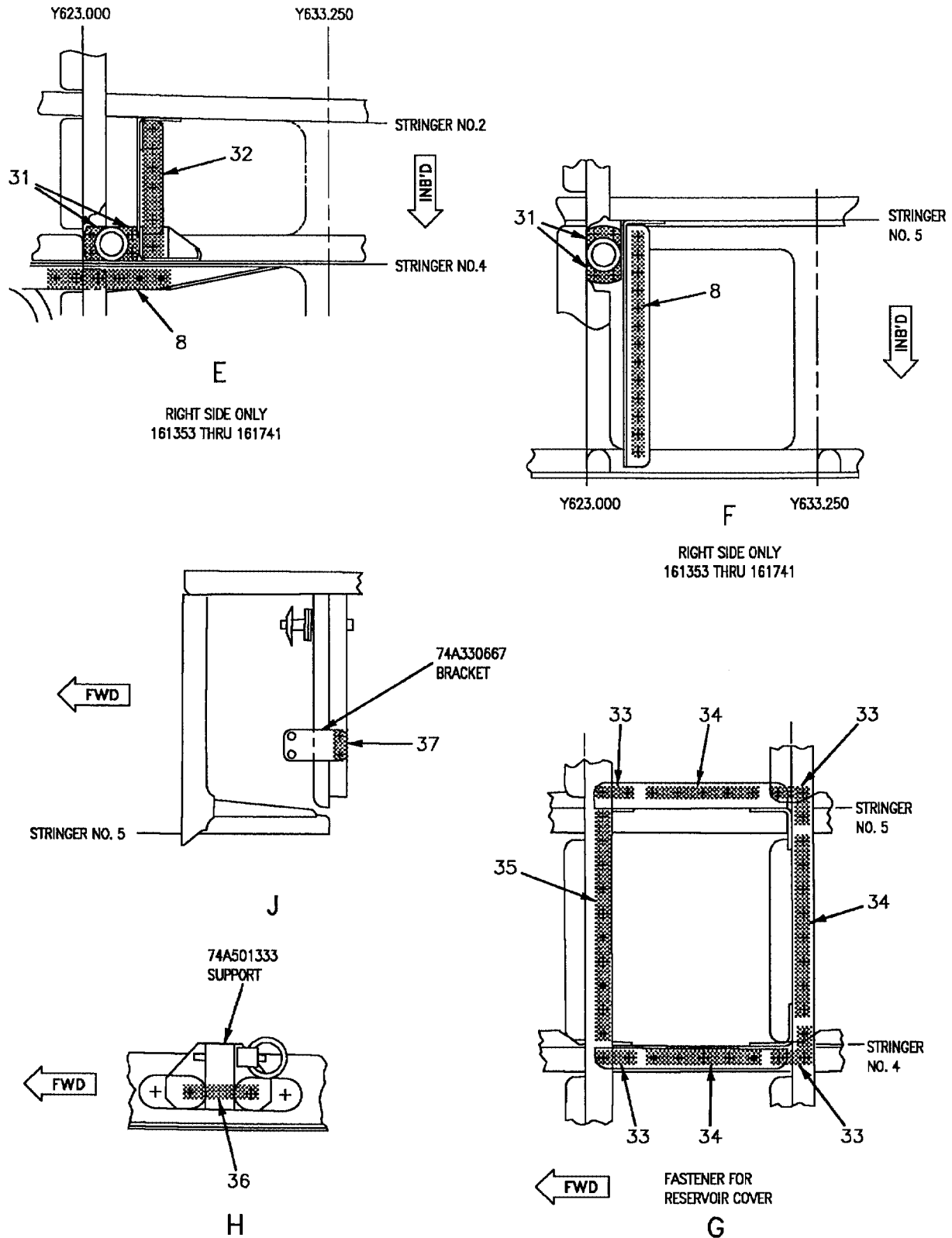


Figure 2. Skin 74A330622, Replacement (Sheet 4)




























Idx No.	Eft		Nomenclature	Part Number
1			Pin Collar	HLT311DL-6-4 HL570-6MC
2			Pin Collar	HLT311DL-6-2 HL570-6MC
3			Pin Collar	HLT311DL-6-3 HL570-6MC
4			Pin Collar	HLT311-6-5 HL570-6MC
5			Rivet 	BRFZ4E
6			Pin Collar	HLT311-6-6 HL570-6MC
7			Pin Collar	HLT311-6-4 HL570-6MC
8			Rivet 	BRFZ6E
9			Pin Collar	HLT311DL-5-4 SW1000-5M
10	 	 	Rivet Rivet	BRFS5AD BRFZ5E
11			Pin Collar	HTL311DL-6-3 SW1000-6M
12			Rivet 	MS20426AD4
13			Pin Collar	HLT313DL-6-4 SW1000-6M
14			Pin Collar Washer	HLT311-6-4 HL582-6MCA W2000-6W
15			Pin Collar Washer	HLT311-6-6 HL582-6MCA SW2000-6W
16			Pin Collar Washer	HLT311-6-5 HL582-6MCA SW20000-6W
17	 	 	Bolt Nut Washer Pin Collar	NAS663V3HT NAS1291C3M AN960C10L HLT311-6-3 HL570-6MC

Figure 2. Skin 74A330622, Replacement (Sheet 5)

























Idx No.	Eft		Nomenclature	Part Number
18			Pin Collar	HLT311DL-6-4 HL570-6MC
19			Pin Collar	HLT311DL-6-2 HL570-6MC
20			Rivet  	BRFS6T
21			Rivet 	BRFS6T
22			Pin Collar	HLT311DL-6-3 HL570-6MC
23			Pin Collar	HL11V6-5 HL570-5MC
24			Pin Collar	HL11V6-6 HL570-6MC
25			Bolt Nut Washer	NAS663V3HT NAS1291C3M AN960C10L
26			Pin Collar	HL11V6-4 HL570-6MC
27			Pin Collar Washer	HL11V6-4 HL582-6MCA SW2000-6W
28			Pin Collar Washer	HL11V6-6 HL582-6MCA SW2000-6W
29			Pin Collar Washer	HL11V6-5 HL582-6MCA SW2000-6W
30			Pin Collar	HLT311DL-6-2 HL570-6MC
31			Pin Collar	HLT311DL-10-4 SW1000-10M
32			Rivet 	BRFS6AD
33			Rivet 	MS20470AD5
34			Rivet 	MS20470ADA
35			Blind Rivet	CR3213-4-5
36			Rivet 	MS20470AD6

Figure 2. Skin 74A330622, Replacement (Sheet 6)



















Idx No.	Eft		Nomenclature	Part Number
37			Rivet 	MS20470DD6
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1860 + 0.0025 - 0.0000.</p> <p> Hole diameter is 0.1285 + 0.0055 - 0.0000.</p> <p> Hole diameter is 0.162 + 0.006 - 0.000.</p> <p> Hole diameter is 0.1910 + 0.0060 - 0.0000.</p> <p> Hole diameter is 0.192 + 0.006 - 0.000.</p> <p> Hole diameter is 0.1900 + 0.0040 - 0.0000.</p> <p> Hole diameter is 0.1850 + 0.0030 - 0.0000.</p> <p> Hole diameter is 0.3120 + 0.0070 - 0.0000.</p> <p> Hole diameter is 0.161 + 0.005 - 0.000.</p> <p> Hole diameter is 0.129 + 0.003 - 0.000.</p> <p> Length to be determined on installation.</p> <p> 161522 THRU 161741.</p> <p> 161742 AND UP.</p> <p> 161742 THRU 162414.</p> <p> 162415 AND UP.</p> <p> Countersunk both sides.</p>				

Figure 2. Skin 74A330622, Replacement (Sheet 7)

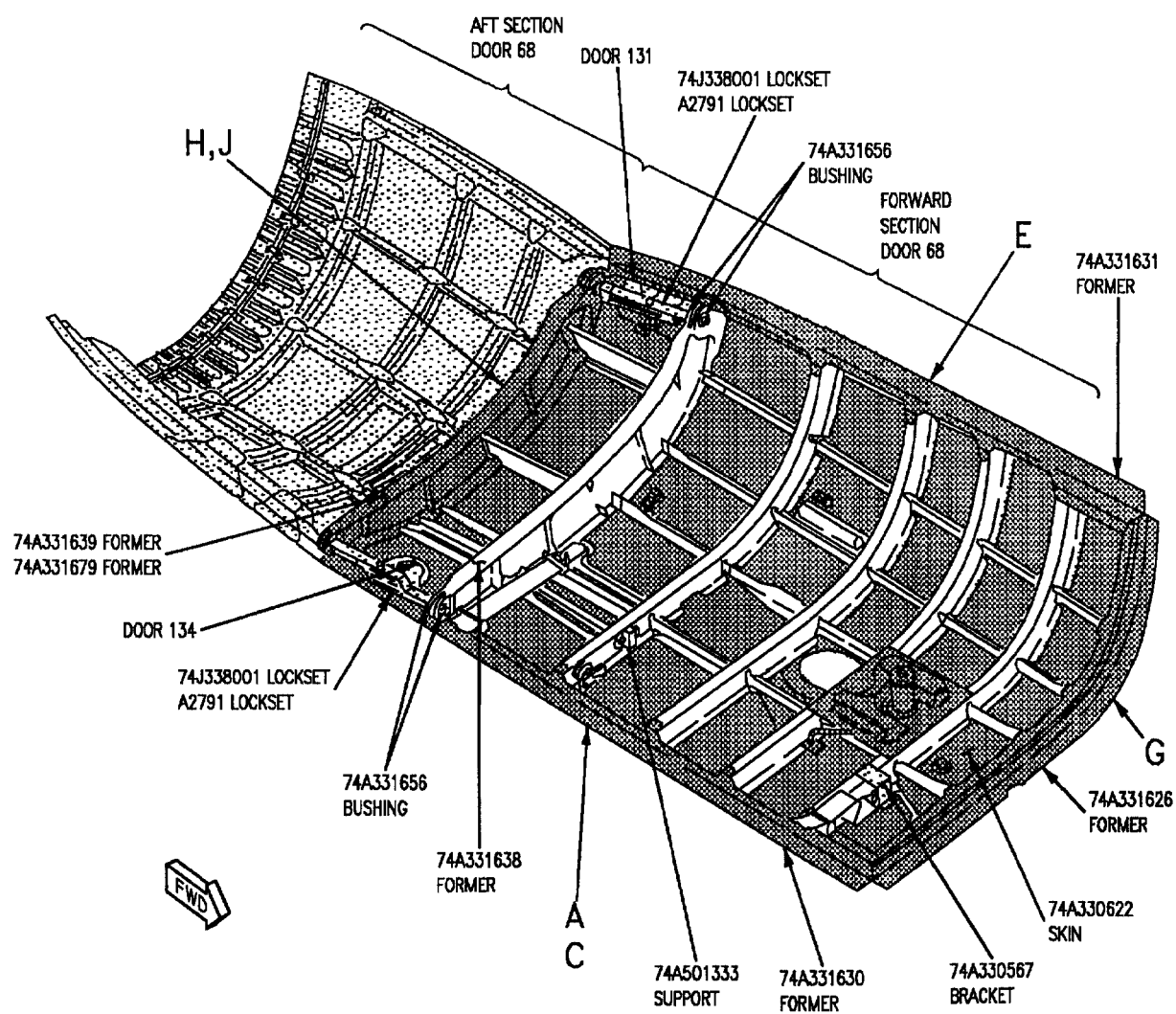


Figure 3. Skin and Formers Replacement (Sheet 1)

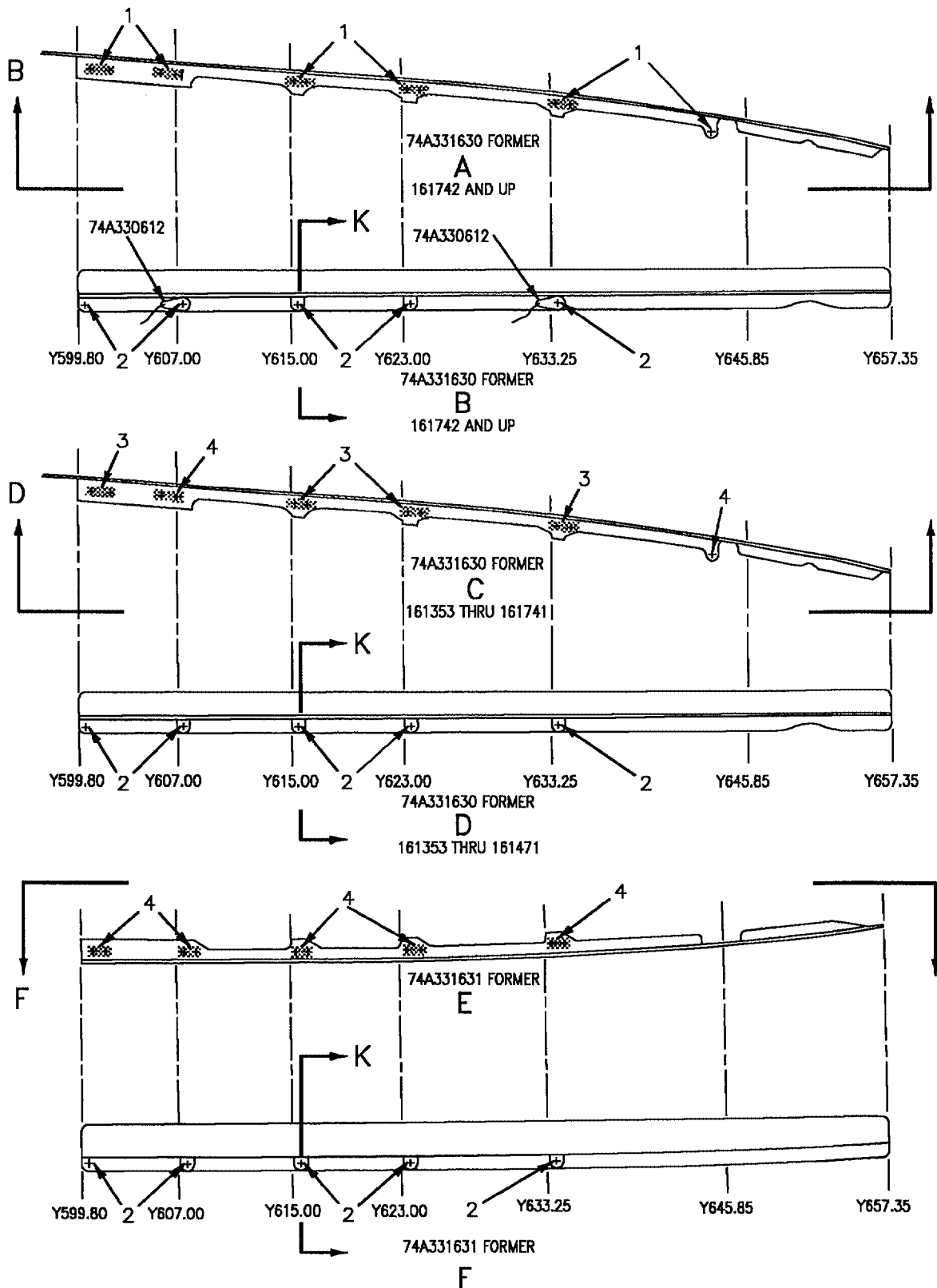


Figure 3. Skin and Formers Replacement (Sheet 2)

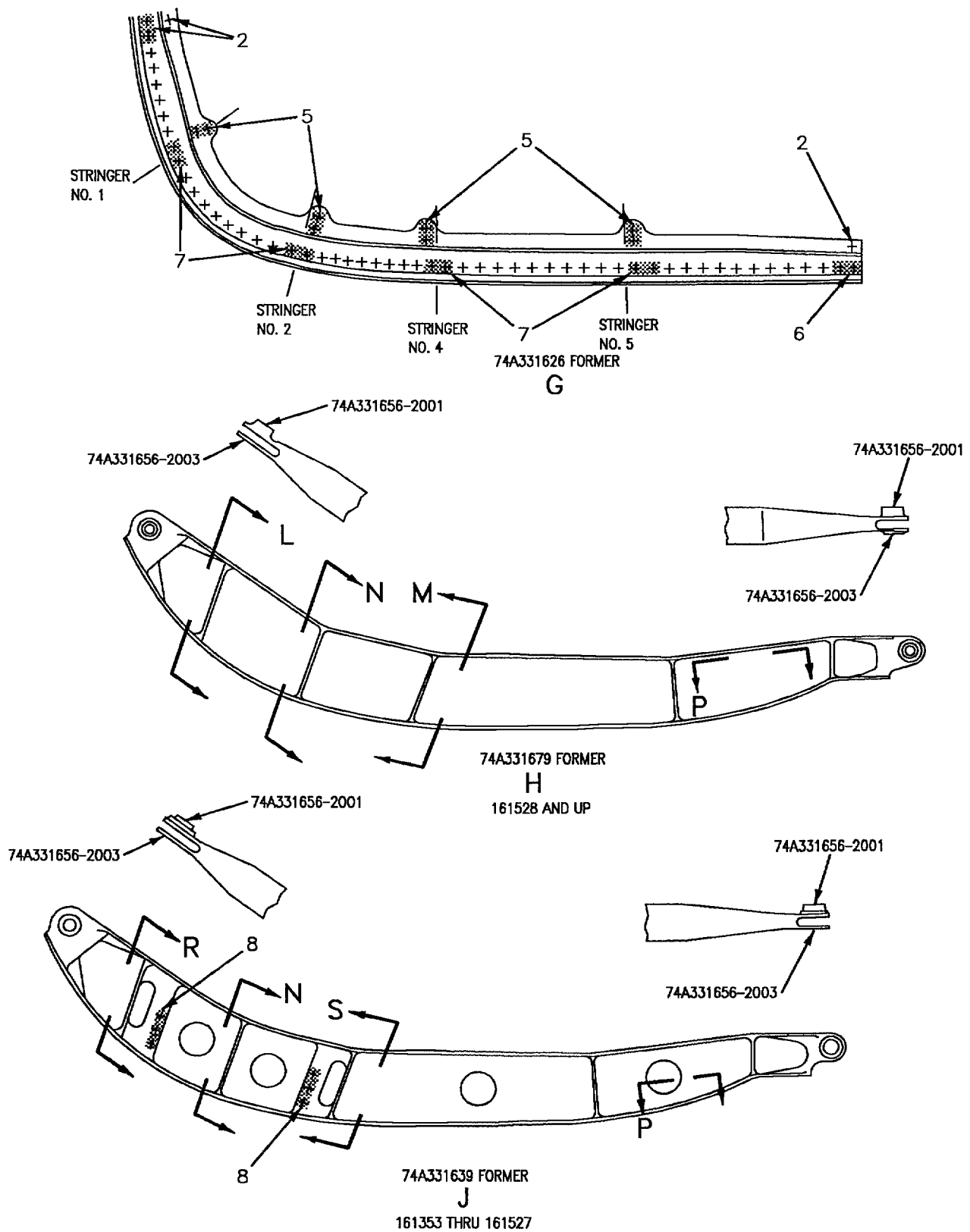


Figure 3. Skin and Formers Replacement (Sheet 3)

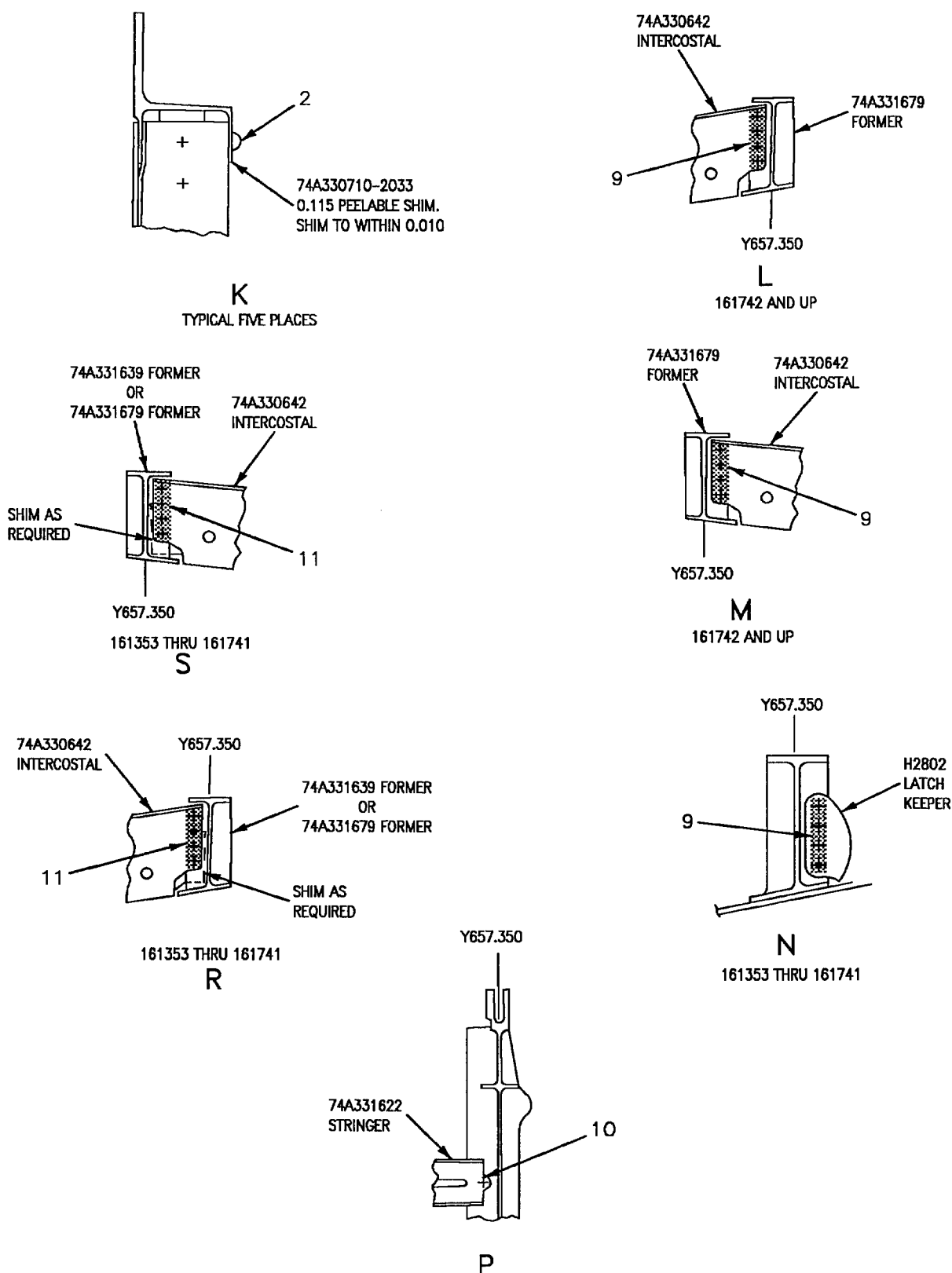


Figure 3. Skin and Formers Replacement (Sheet 4)



































Idx No.	Eft		Nomenclature	Part Number
1			Pin Collar Washer	HLT310DL-6-4 HL582-6MCA SW2000-6W
2			Rivet 	BR1306-6
3			Pin Collar	HLT310-6-4 HL570-6MC
4			Pin Collar	HL10V6-4 HL570-6MC
5			Pin Collar	HLT310-5-4 HL570-6MC
6			Pin Collar	HLT310DL-6-3 HL570-6MC
7	 	 	Rivet Blind Rivet	MS20470DD6 CR3213-6-5
8			Rivet 	MS20470AD5
9			Rivet	MS20470AD5
10	 	 	Rivet Rivet	BRFS5AD BRFZ5E
11			Rivet	BRFS5AD
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1860 + 0.0025 - 0.0000.</p> <p> Length determined on installation.</p> <p> Hole diameter is 0.192 + 0.006 - 0.000.</p> <p> Hole diameter is 0.1850 + 0.0030 - 0.0000.</p> <p> Hole diameter is 0.1590 + 0.0030 - 0.0000.</p> <p> Hole diameter is 0.192 + 0.004 - 0.000.</p> <p> Hole diameter is 0.161 + 0.005 - 0.000.</p> <p> Hole diameter is 0.1285 + 0.0055 - 0.0000.</p> <p> 161353 THRU 161521.</p> <p> 161522 AND UP.</p> <p> 161353 THRU 161741.</p> <p> 161742 AND UP.</p> <p> Shim as required.</p>				

Figure 3. Skin and Formers Replacement (Sheet 5)

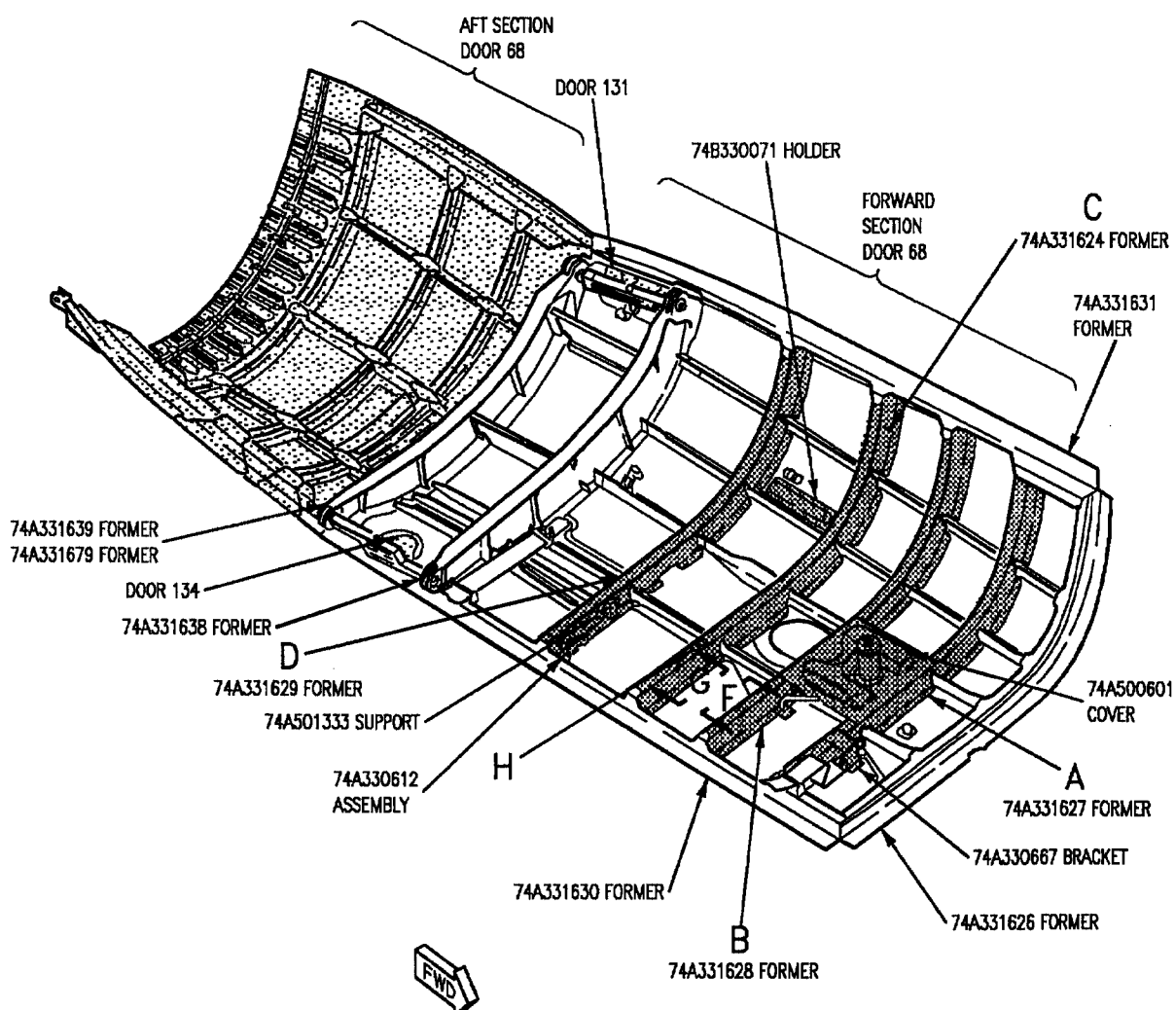


Figure 4. Formers Replacement (Sheet 1)

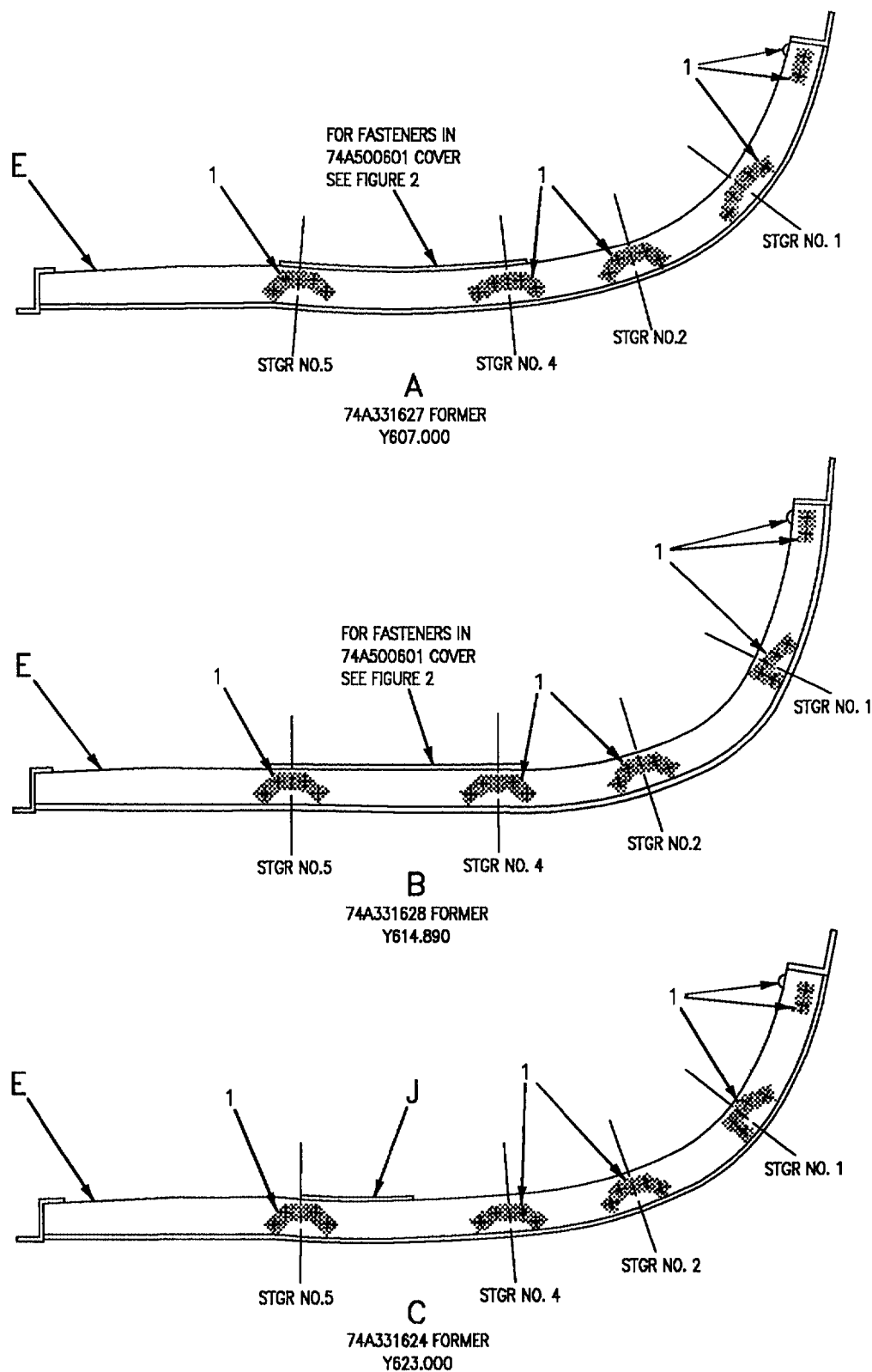


Figure 4. Formers Replacement (Sheet 2)

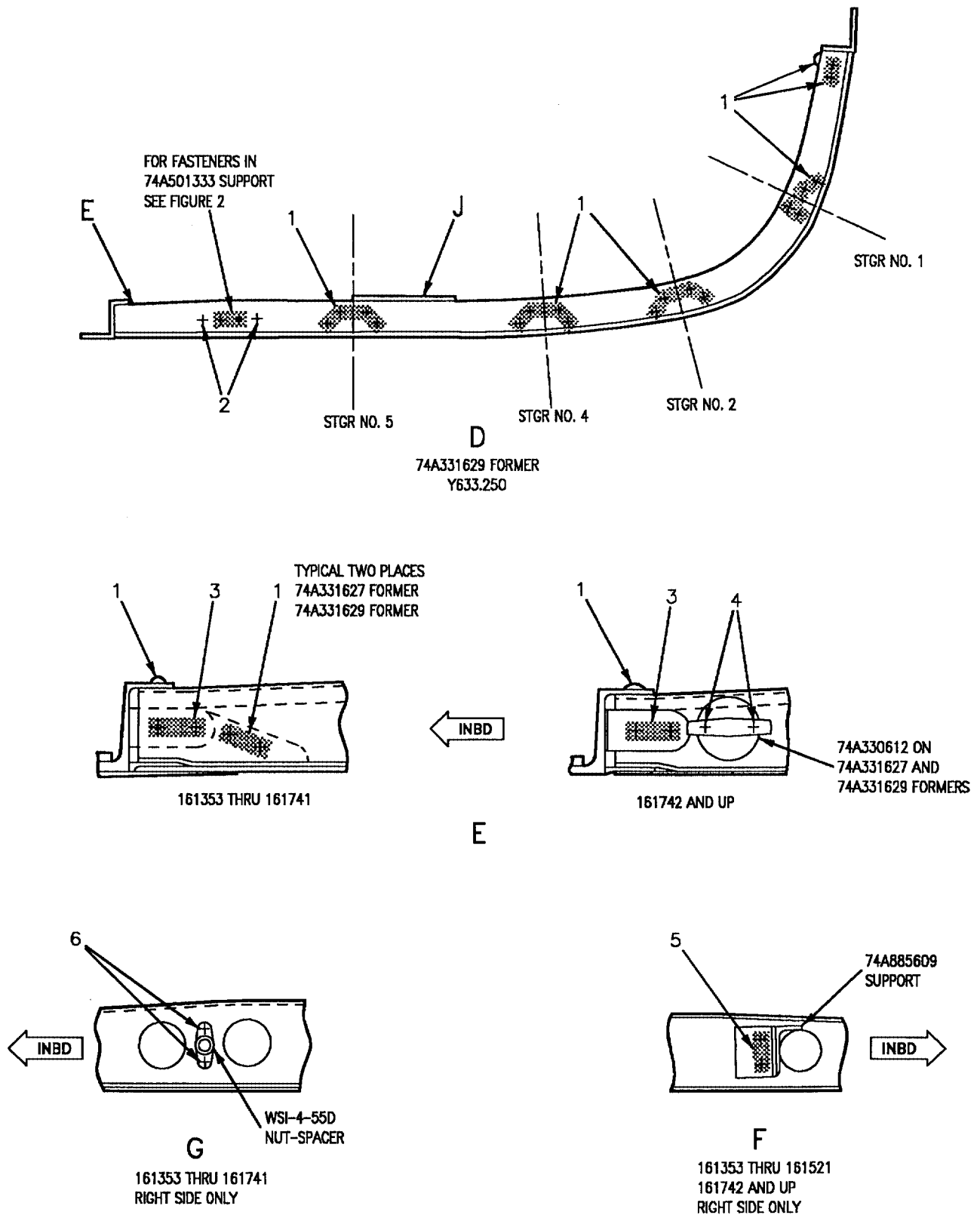


Figure 4. Formers Replacement (Sheet 3)

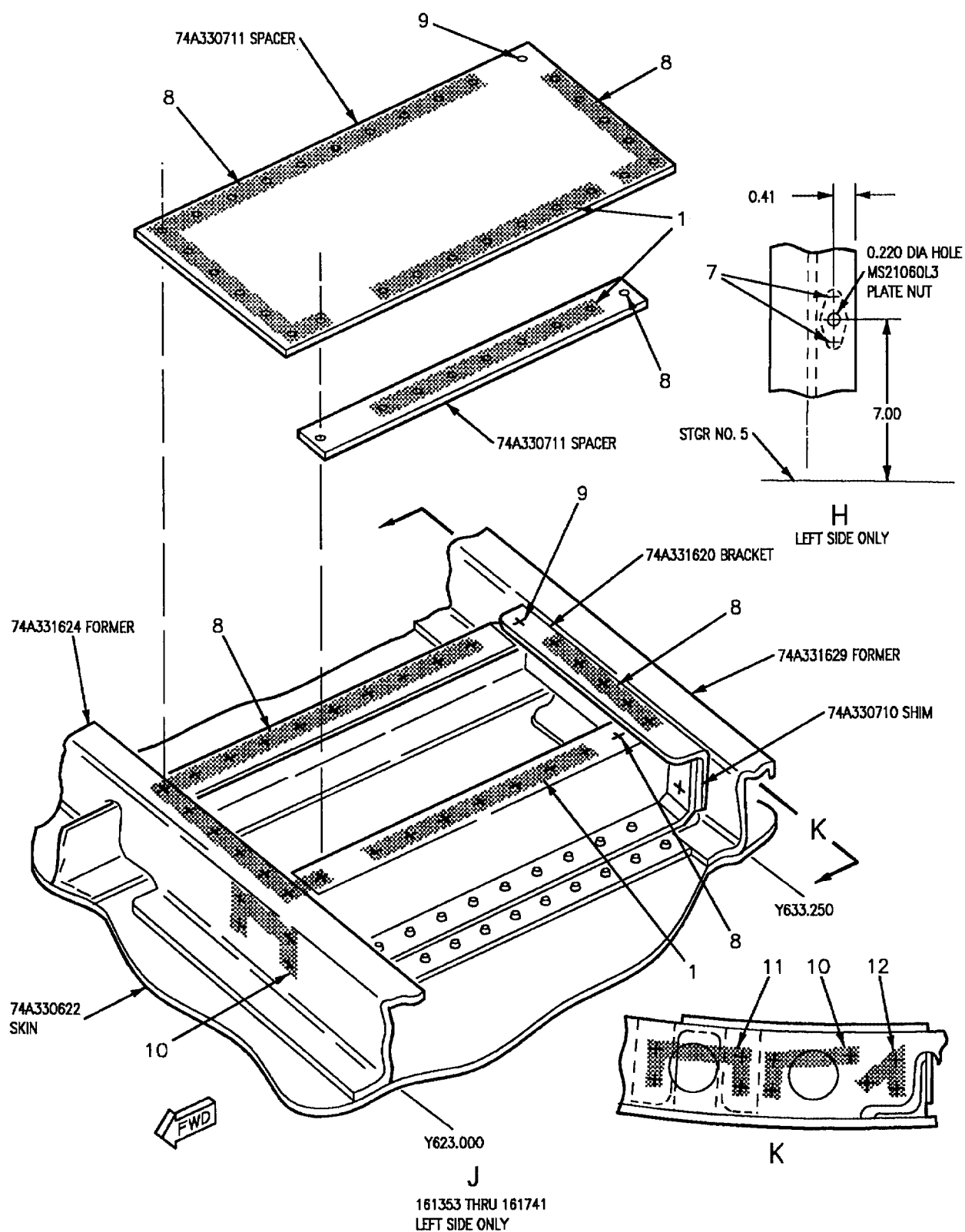


Figure 4. Formers Replacement (Sheet 4)



























Idx No.	Eft		Nomenclature	Part Number
1			Rivet 	MS20470DD6
2			Rivet 	MS20470AD6
3			Pin Collar	HLT310DL-6-3 HL570-6MC
4			Rivet 	MS20470AD4
5			Rivet 	MS20470AD5
6			Rivet 	MS20426AD4
7			Rivet 	MS20426AD3
8			Blind Rivet	NAS1398C6A3
9			Blind Rivet	NAS1398C5A3
10			Pin Collar	HL610-5-3 HL570-5MC
11			Pin Collar	HL610-5-5 HL570-5MC
12			Pin Collar	HL610-5-4 HL570-5MC
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.192 + 0.006 - 0.000.</p> <p> Hole diameter is 0.1850 + 0.0030 - 0.0000.</p> <p> Length determined on installation.</p> <p> Hole diameter is 0.1285 + 0.0055 - 0.0000.</p> <p> Hole diameter is 0.161 + 0.005 - 0.000.</p> <p> Hole diameter is 0.098 + 0.005 - 0.000.</p> <p> Hole diameter is 0.160 + 0.004 - 0.000.</p> <p> Hole diameter is 0.1635 + 0.0025 - 0.0000.</p>				

Figure 4. Formers Replacement (Sheet 5)

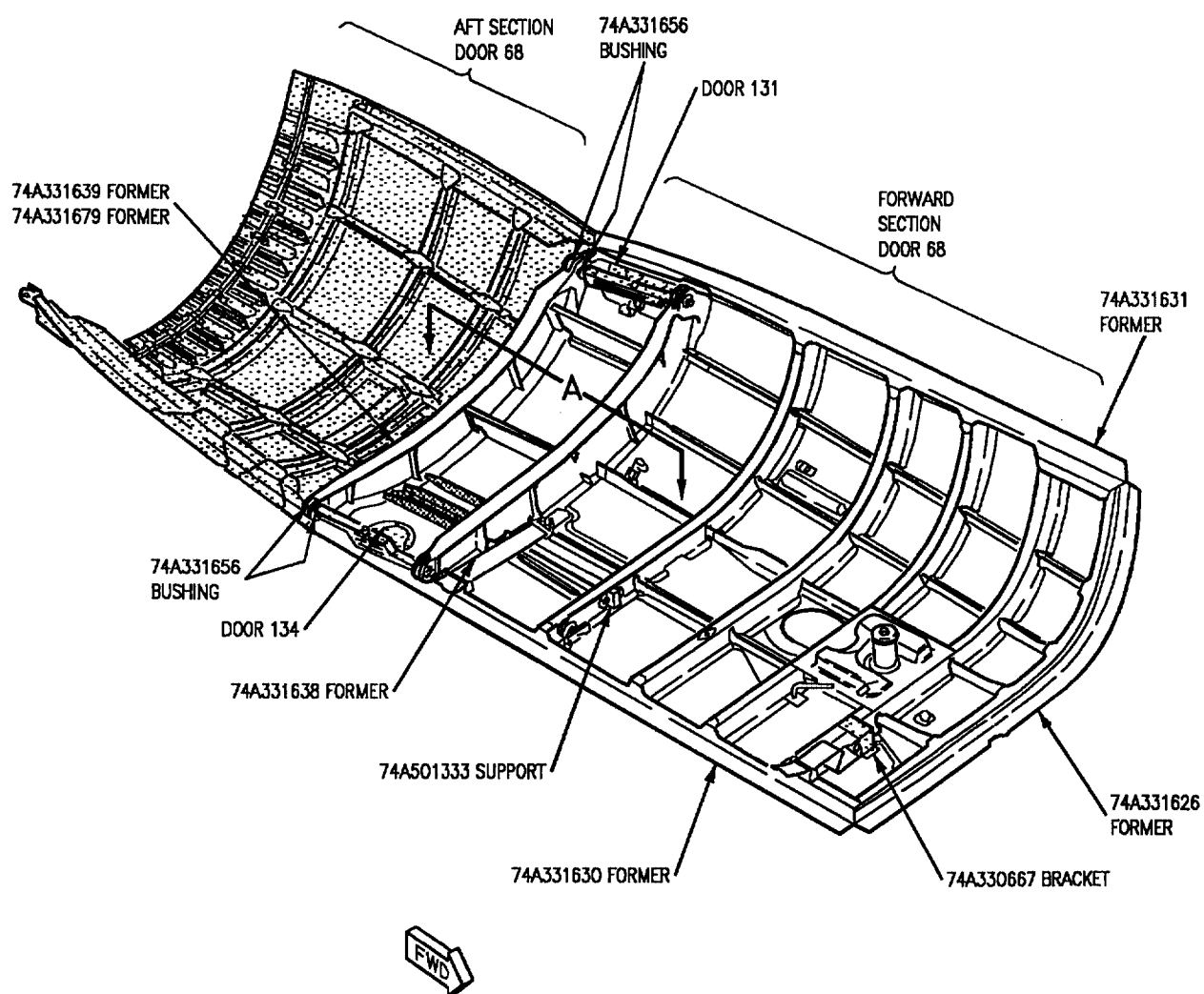


Figure 5. Former, 74A331638 Replacement (Sheet 1)

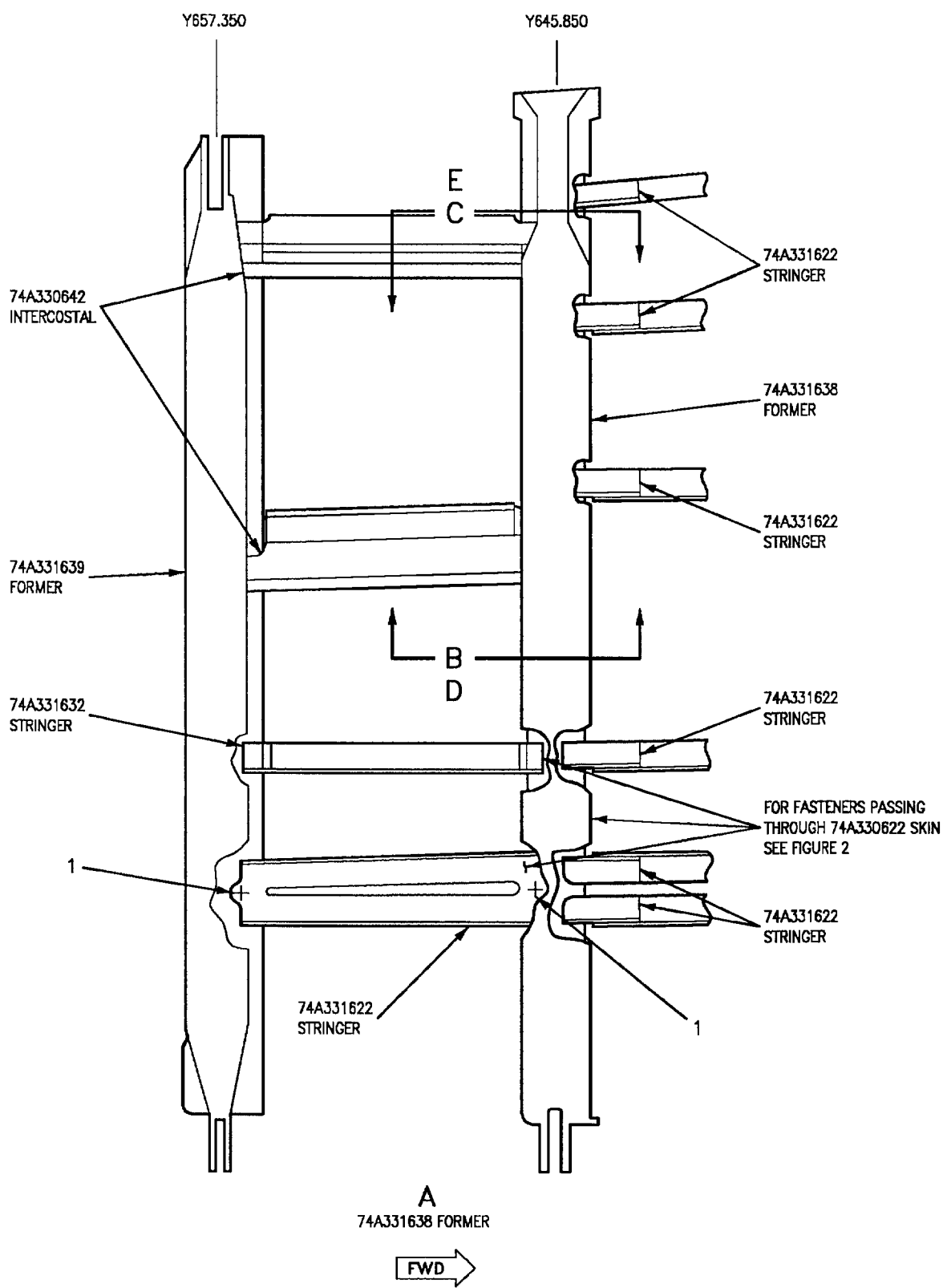


Figure 5. Former, 74A331638 Replacement (Sheet 2)

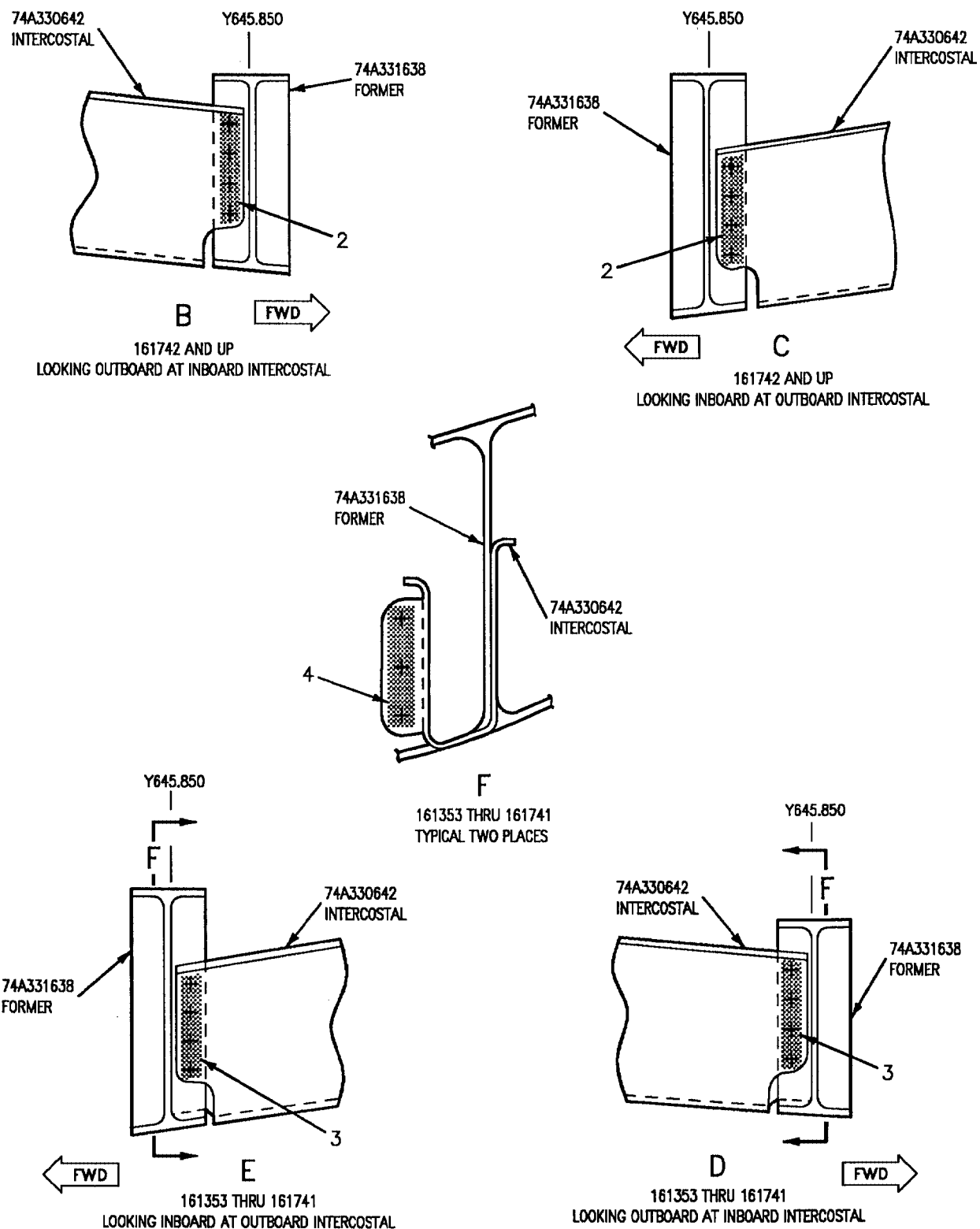


Figure 5. Former, 74A331638 Replacement (Sheet 3)

Idx No.	Eft		Nomenclature	Part Number
1	<div>4</div> <div>5</div>	<div>1</div> <div>2</div>	Rivet <div>3</div> Rivet <div>3</div>	BRFS5AD BRFZ5E
2	<div>5</div>	<div>1</div>	Rivet <div>3</div>	MS20470AD5
3	<div>4</div>	<div>1</div>	Rivet <div>3</div>	BRFS5AD
4	<div>4</div>	<div>1</div>	Rivet <div>3</div>	MS20470AD5
<p style="text-align: center;">LEGEND</p> <p><div>1</div> Hole diameter is 0.161 +0.005 -0.000.</p> <p><div>2</div> Hole diameter is 0.1285 +0.0055 -0.0000.</p> <p><div>3</div> Length determined on installation.</p> <p><div>4</div> 161353 THRU 161741.</p> <p><div>5</div> 161742 AND UP.</p>				

Figure 5. Former, 74A331638 Replacement (Sheet 4)

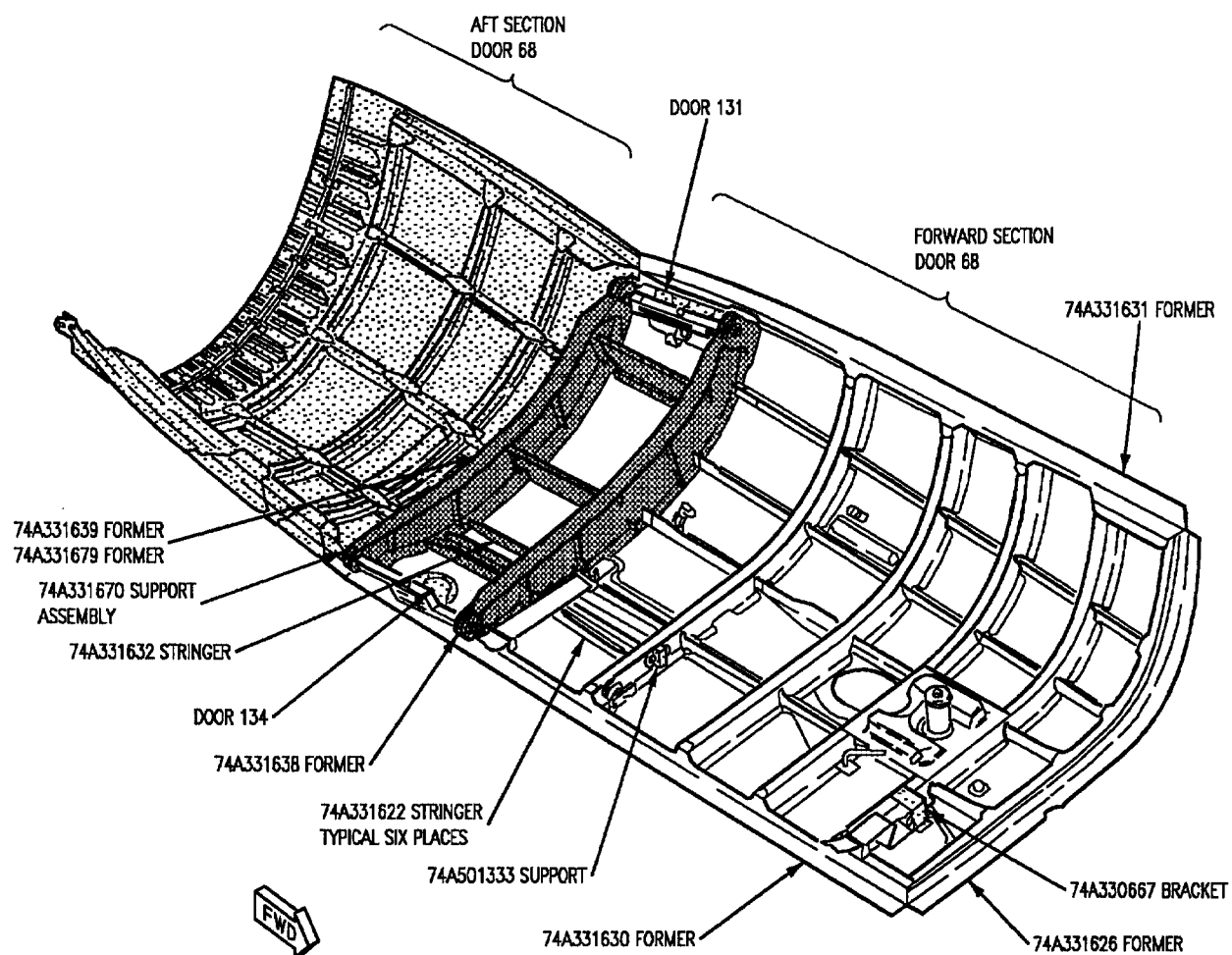


Figure 6. Support, 74A331670 Assembly, Replacement

DEPOT MAINTENANCE

STRUCTURE REPAIR

**CENTER ENGINE ACCESS DOOR (DOOR 68) OR COMBINED AFT AND CENTER
ENGINE ACCESS DOOR (DOOR 68), FUSELAGE DROP LINK BUSHING
DRILL JIG, RE174331670-1 AND BUSHING REPLACEMENT**

Reference Material

Aft Fuselage, Structure Repair	A1-F18AC-SRM-240
Center Engine Access Door (Door 68)	WP019 00
Combined Aft and Center Engine Access Door (Door 68)	WP019 01
Aircraft Corrosion Control	A1-F18AC-SRM-500
Aft Fuselage Finish System and Markings	WP036 00
Line Maintenance Access Doors	A1-F18AC-LMM-010
Line Maintenance Procedures	A1-F18AC-LMM-000
Plane Captain Manual	A1-F18AC-PCM-000
Power Plant and Related Systems	A1-F18AC-270-300
Removal and Installation - Engine	WP003 00
Structure Repair, General Information	A1-F18AC-SRM-200
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00

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Aircraft and Door Preparation	2
Bushing 74A331645 Installation	5
Bushing 74A331645 Removal	5
Bushing 74A331656-2001 Installation	5
Bushing 74A331656-2003 Installation	3
Bushing 74A331656-2001 Removal	3
Bushing 74A331656-2003 Removal	2
In-line Drilling and Reaming of All Three Bushings at Y645.850 Inboard and Outboard Positions	5
In-line Drilling and Reaming of All Three Bushings at Y657.350 Inboard and Outboard Positions	7
Test Load, 74A331656-2003 Bushing, 200 Pounds	4
Bushing 74A331645 Removal, Installation, Drilling and Reaming	9
Repair Evaluation	1

Record of Applicable Technical Directives

None

1. REPAIR EVALUATION.

2. Bushings are arranged in sets of 3 at four locations. Each location has 2 bushings in the drop link former and 1 bushing in the main structural former. Damage to either bushing in the droplink former requires that all 3 bushings be replaced. The

74A331645 bushing in the structure former may be replaced as a single item. Bushing replacement may be done on site by a depot team. Use of drill jig for in-line reaming must be done on aircraft with door securely installed on aircraft. When a new door is installed, door must be trimmed and drilled to fit aircraft, with fasteners installed before in-line reaming

can be done. Additional door support is supplied by securing the three other locations not being worked with suitable fasteners. Drill and ream first set of replaced bushings before removing bushings at next location. Procedures will do left or right side.

3. DOOR 68 AND RELATED FUSELAGE STRUCTURE BUSHING REMOVAL, INSTALLATION, DRILLING AND REAMING. See figure 1. Remove, install, drill, and ream bushings one set at a time. Procedures will do 74A331645, 74A331656-2001, and 74A331656-2003 bushings.

Support Equipment Required

NOTE

Alternate item type designations or part number are listed in parentheses.

Nomenclature	Part Number or Type Designation
Drill Adapter, Rockwell	1018792
Drill Jig, Center Engine Bay Door Bushing Fus/Drop Link	RE174331670-1, -2
Drill Motor, Rockwell (Drilling Machine, Positive Feed, Right Angle, 140 RPM)	41PA7350A (74D110314-1007)
Portable Strain Indicator	P-3500
Torque Wrench, 0 to 200 Inch-Pounds	-

Materials Required

Nomenclature	Specification or Part Number
Bushing (AR)	74A331645-2001
Bushing (AR)	74A331645-2003
Bushing (AR)	74A331656-2001
Bushing (AR)	74A331656-2003
Nitrogen, Liquid	BB-N-411, Type I, Class 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-83430, Class B-4

4. AIRCRAFT AND DOOR PREPARATION.

a. Remove electrical and hydraulic power from aircraft (A1-F18AC-LMM-000).

b. Install 74D110132-1001 horizontal stabilator position support (A1-F18AC-PCM-000).

c. Remove engine (A1-F18AC-270-300, WP003 00).

d. Leave door 64 open.

e. Remove door 68 (WP019 00 or WP019 01).

f. Remove lockset assembly as required from door 68 (WP019 00 or WP019 01).

5. BUSHING 74A331656-2003 REMOVAL. See detail A.

a. Insert drill guide (detail 108) into 74A331656-2001 bushing.

b. Assemble plates (details 103 and 106) with socket head cap screws (details 105 and 107).

c. Install plate (detail 103) into clevis of droplink.

d. Insert cutter drive shaft (detail 109) through drill guide (detail 108) and plate (detail 103).

e. Tighten socket head cap screw (detail 107) securing assembly to tang.

f. Install cutter stop (detail 102) onto cutter drive shaft (detail 109) and insert cutter drive shaft into 74A331656-2003 bushing until it touches plate (detail 103).

g. Install cutter (detail 101) onto cutter drive shaft (detail 109).

h. Attach drill motor to cutter drive shaft (detail 109).

i. Cut away swage of 74A331656-2003 bushing until cutter (detail 101) bottoms out on cutter stop (detail 102).

j. Remove drill motor from cutter drive shaft (detail 109).

k. Remove cutter (detail 101) from cutter drive shaft (detail 109).

l. Remove cutter stop (detail 102) from cutter drive shaft (detail 109).

m. Remove cutter drive shaft (detail 109).

n. Loosen socket head cap screw (detail 107).

o. Remove plates (details 103 and 106).

p. Remove drill guide (detail 108) from 74A331656-2001 bushing.

q. Install plate (detail 111) into clevis of droplink with 0.925 inch diameter counterbore facing 74A331656-2003 bushing.

r. Install bolt (detail 112) through 74A331656-2001 bushing, plate (detail 111) and 74A331656-2003 bushing.

s. Install nut (detail 110) onto bolt (detail 112) with machined diameter facing 74A331656-2003 bushing.

t. Tighten nut (detail 110) until machined diameter of nut enters counterbore of 74A331656-2003 bushing. Tighten until remaining portion of swage is sheared off and 74A331656-2003 bushing is pushed into counterbore of plate (detail 111).

u. Remove nut (detail 110).

v. Remove bolt (detail 112).

w. Remove plate (detail 111) and remove damaged bushing from counterbore.

6. BUSHING 74A331656-2001 REMOVAL. See detail B.

a. Install hollow threaded bolt (detail 113) into hole in tang where 74A331656-2003 bushing was removed.

b. Install counterbored spacer (detail 147) on 161353 THRU 161741 or (detail 114) on 161742 AND UP, over 74A331656-2001 bushing.

c. Install bolt (detail 112) through counterbored spacer (detail 114) and 74A331656-2001 bushing.

d. Thread bolt (detail 112) into hollow threaded bolt (detail 113) and tighten until 74A331656-2001

bushing is removed from tang into counterbore of counterbored spacer (detail 147 or 114).

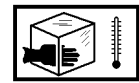
e. Remove bolt (detail 112).

f. Remove hollow threaded bolt (detail 113).

g. Remove counterbored spacer (detail 147 or 114) and remove damaged bushing from counterbore.

7. BUSHING 74A331656-2003 INSTALLATION. Details C and D.

a. Clean tang surfaces of old sealant with plastic scraper, detail C.



Liquid Nitrogen

22

NOTE

Tools to be used to handle the cooled bushing shall also be cooled by placing in liquid nitrogen until rapid boiling action stops.

b. Cold shrink install 74A331656-2003 bushing into hole in former tang with flared end of bushing nested into tang. Bushing will be recessed from tang surface when properly installed.

c. Hold bushing in place with threaded plate (detail 117), washer (detail 116), and bolt (detail 115) until room temperature is achieved.

d. After bushing has reached room temperature remove threaded plate (detail 117), washer (detail 116) and bolt (detail 115).

e. Install swaging tool (detail 119) onto bolt (detail 118) with flat end against head of bolt (detail 118).

NOTE

Install nut (detail 120) with boss against bushing.

f. Install bolt (detail 118) through 74A331656-2003 bushing engaging nut (detail 120).

g. Holding nut (detail 120), torque bolt (detail 118) to 110 ± 10 foot-pounds.

h. Remove bolt (detail 118).

i. Remove swaging tool (detail 119) from bolt (detail 118).

j. Remove nut (detail 120).

k. Do test load per Test Load, 74A331656-2003 Bushing, 200 Pounds, below, this WP.



Sealing Compound

2

NOTE

Keep sealing compound off of inner tang surface.

l. Seal periphery of bushing mating tang surfaces on both faces with MIL-S-83430 sealing compound. Sealant preparation and application (A1-F18AC-SRM-200, WP011 00).

8. TEST LOAD, 74A331656-2003 BUSHING, 200 POUNDS. See detail E.

a. Install weld assembly (detail 11) into frame (detail 121).

b. Install socket head cap screw (detail 128) into load cell (detail 127).

c. Install threaded hollow spacer (detail 125) into load cell (detail 127).

d. Press fit pin (detail 123) into frame (detail 121).

e. Install sleeve (detail 124) into droplink clevis with counterbore facing 74A331656-2003 bushing.

f. Install sleeve (detail 122) onto pin (detail 123)

g. Install pin (detail 123) through 74A331656-2003 bushing, sleeve (detail 124), into hole in opposite drop link tang.

h. Install threaded hollow spacer (detail 125) into droplink tang and over pin (detail 123) until it contacts sleeve (detail 124).

i. Install ratchet wrench (detail 129) onto weld assembly (detail 11).

j. Tighten weld assembly (detail 11) until it enters socket head cap screw (detail 128) and entire test load assembly is snug fit.

k. Install dial indicator (detail 126) to frame (detail 121) using gage mount (detail 130) and T-screw (detail 131).

l. Connect load cell (detail 127) wires to P-3500 strain indicator.

m. Set dial indicator (detail 126) to zero.

n. Tighten weld assembly (detail 11) until a load of 200 ± 10 pounds is indicated on strain gage. Observe indicator reading for indication of 74A331656-2003 bushing movement. Repeat Bushing 74A331656-2003 Removal and Bushing 74A331656-2003 Installation, this WP, if bushing moved.

o. Loosen weld assembly (detail 11).

p. Disconnect load cell (detail 127) from P-3500 strain indicator.

q. Remove dial indicator (detail 126), gage mount (detail 130) and T-screw (detail 131) from frame (detail 121).

r. Remove weld assembly (detail 11) from frame (detail 121).

s. Remove threaded hollow spacer (detail 125) from over pin (detail 123) and hole in droplink tang.

t. Remove threaded hollow spacer (detail 125) from load cell (detail 127).

u. Remove socket head cap screw (detail 128) from load cell (detail 127).

v. Remove frame (detail 121) from droplink flange.

w. Remove sleeve (detail 124) from droplink clevis.

x. Remove sleeve (detail 122) from pin (detail 123).

y. Visually inspect 74A331656-2003 bushing for movement.

9. BUSHING 74A331656-2001 INSTALLATION. See detail F.



Liquid Nitrogen

22

NOTE

Tools to be used to handle the cooled bushing shall also be cooled by placing in liquid nitrogen until rapid boiling action stops.

- a. Cold shrink install 74A331656-2001 bushing into hole in former tang.
- b. Hold bushing in place with threaded plate (detail 132), sleeve (detail 133), washer (detail 116), and bolt (detail 134).
- c. Tighten bolt (detail 134) securing 74A331656-2001 bushing in seated hole in former tang.
- d. Hold bushing in place until room temperature is achieved.
- e. After bushing has reached room temperature remove bolt (detail 134), washer (detail 116), sleeve (detail 133), and threaded plate (detail 132).

10. BUSHING 74A331645 REMOVAL. See detail G.

- a. Install counterbored spacer (detail 136) onto bolt (detail 137) with counterbore facing away from bolt (detail 137) head.
- b. Install bolt (detail 137) through hole in 74A331645 bushing.
- c. Install nut (detail 135) onto bolt (detail 137).
- d. Hand tighten nut (detail 135) while centering counterbore spacer (detail 136) over 74A331645 bushing.
- e. Tighten bolt (detail 137) until 74A331645 bushing is removed.

- f. Remove bolt (detail 137), nut (detail 135), and counterbored spacer (detail 136) from former.

- g. Remove bushing from counterbored spacer (detail 136).

11. BUSHING 74A331645 INSTALLATION. See detail H.



Liquid Nitrogen

22

NOTE

Tools to be used to handle the cooled bushing shall also be cooled by placing in liquid nitrogen until rapid boiling action stops.

- a. Cold shrink install 74A331645 bushing into hole in former.
- b. Hold bushing in place with washers (detail 139), bolt (detail 140), and nut (detail 138).
- c. Tighten nut (detail 138) to bolt (detail 140) hand tight.
- d. After bushing has reached room temperature remove nut (detail 138), bolt (detail 140), and washers (detail 139).

12. IN-LINE DRILLING AND REAMING OF ALL THREE BUSHINGS AT Y645.850, INBOARD AND OUTBOARD POSITIONS. See detail J.

- a. Install door 68 on aircraft securing all fasteners tight.
- b. Close lockset or install fasteners as required through remaining sets of bushings not being worked for added door support.

NOTE

Trial fit drill guide (detail 144) into 74A331656-2001 bushing counterbore; if it fits, use it. If it does not fit, use drill guide (detail 166).

- c. Install knurled nut (detail 142) onto drill guide (detail 144 or 166).

d. Install drill guide (detail 144 or 166) into support (detail 141) until it protrudes through opposite side.

NOTE

Detail 163 is used with Rockwell drill. Detail 155 is used with GFE drill.

e. Install threaded spacer (detail 163 or 155) onto adapter (detail 157).

f. Install threaded spacer (detail 156) onto adapter (detail 157).

g. Install adapter (detail 157) into support extension (detail 145).

h. Install O-ring (detail 154) into each side of retainer (detail 152).

i. Install retainer (detail 152) onto drill bushing (detail 146).

j. Install drill bushing (detail 146) into support (detail 141).

k. Lock drill bushing (detail 146) in place with set screw (detail 143).

l. Install nose of drill bushing (detail 146) into 74A331656-2003 bushing swage.

m. Snug tighten drill guide (detail 144 or 166) into 74A331656-2001 bushing counterbore.

n. Lock drill guide (detail 144 or 166) in place with knurled nut (detail 142).

o. Install 0.500 inch diameter drill into right angle power feed drill motor, (drill motor).

p. Install drill through adapter (detail 157), threaded spacers (details 163 or 155 and 156) into drill bushing (detail 146) and attach drill motor to adapter (detail 157).

q. Connect coolant line to quick disconnect (detail 153).

WARNING

Material used to fabricate repair bushing contains beryllium. Particles can cause lung damage and allergic symptoms. Avoid skin contact, protect face and eyes, use respirator.

r. Drill 0.500 inch diameter hole through 74A331645 bushing.

s. Remove drill motor and drill.

t. Install drill bushing (detail 149) to replace drill bushing (detail 146).

u. Lock drill bushing (detail 149) in place with set screw (detail 143).

v. Snug tighten drill guide (detail 144 or 166) into 74A331656-2001 bushing counterbore.

w. Lock drill guide (detail 144 or 166) in place with knurled nut (detail 142).

x. Install 0.6170 inch diameter drill, to replace 0.500 inch diameter drill, into drill motor.

y. Install drill through adapter (detail 157), threaded spacers (details 163 or 155 and 156) into drill bushing (detail 149) and attach drill motor to adapter (detail 157).

z. Drill 0.6170 inch diameter hole through 74A331645 bushing.

aa. Remove drill motor and drill.

ab. Install drill bushing (detail 150) to replace drill bushing (detail 149).

ac. Install 0.625 inch diameter reamer, to replace 0.6170 inch diameter drill, into drill motor.

ad. Snug tighten drill guide (detail 144 or 166) into 74A331656-2001 bushing counterbore.

ae. Lock drill guide (detail 144 or 166) in place with knurled nut (detail 142).

af. Install reamer through adapter (detail 157), threaded spacers (details 163 or 155 and 156) into drill bushing (detail 150) and attach drill motor to adapter (detail 157).



Beryllium

ag. Ream 0.6245 +0.0022 -0.0000 inch diameter hole through 74A331656-2003, 74A331645, and 74A331656-2001 bushing.

ah. Remove drill motor and reamer.

ai. Remove coolant line from quick disconnect (detail 153).

aj. Loosen knurled nut (detail 142) and retract drill guide (detail 144 or 166) to clear 74A331656-2001 bushing.

ak. Repeat paragraphs 5 through 12 at required locations.

al. Remove support (detail 141) from aircraft, clean and store.

am. Open lockset or remove fasteners as required that were providing additional support for door.

an. Clean door of all contaminants.

ao. Install lockset assembly as required on door 68 (WP019 00 or WP019 01).

ap. Refinish as required (A1-F18AC-SRM-500, WP036 00).

aq. Install engine (A1-F18AC-270-300, WP003 00).

ar. Install door 68 (WP019 00 or WP019 01).

as. Close door 64 (A1-F18AC-LMM-010).

at. Remove 74D110132-1001 horizontal stabilator position support (A1-F18AC-PCM-000).

13. IN-LINE DRILLING AND REAMING OF ALL THREE BUSHINGS AT Y657.350, INBOARD AND OUTBOARD POSITIONS. See detail K.

a. Install door 68 on aircraft securing all fasteners tight.

b. Close locksets or install fasteners as required through remaining sets of bushings not being worked for added door support.

NOTE

Trial fit drill bushings (details 159, 160 and 161) into counterbore of 74A331656-2001 bushing. If they fit use them, if they do not fit use drill bushings (details 167, 168, and 169).

c. Install drill guide (detail 165) into support (detail 141) until it protrudes through opposite side.

NOTE

Detail 163 is used with Rockwell drill.

d. Install threaded spacer (detail 163) onto adapter (detail 157).

e. Install threaded spacer (detail 156) onto adapter (detail 157).

f. Install adapter (detail 157) into support extension (detail 145).

g. Install O-ring (detail 154) into each side of retainer (detail 152).

h. Install retainer (detail 152) onto drill bushing (detail 161 or 169).

i. Install drill bushing (detail 161 or 169) into support (detail 141).

j. Lock drill bushing (detail 161 or 169) in place with set screw (detail 143).

k. Install nose of drill bushing (detail 161 or 169) into 74A331656-2001 bushing.

l. Install adapter (detail 162) onto end of drill guide (detail 165).

m. Snug tighten adapter (detail 162) over 74A331656-2003 bushing swage by turning drill guide (detail 165).

n. Lock drill guide (detail 165) in place with set screws (detail 164) two places.

o. Install 0.500 inch diameter drill into right angle power feed drill motor, (drill motor).

p. Install drill through adapter (detail 157), threaded spacers (details 163 and 156) into drill bushing (detail 161 or 169) and attach drill motor to adapter (detail 157).

q. Install coolant lines to quick disconnect (detail 153).



Beryllium



14

WARNING

Material used to fabricate repair bushing contains beryllium. Particles can cause lung damage and allergic symptoms. Avoid skin contact, protect face and eyes, use respirator.

r. Drill 0.500 inch diameter hole through 74A331645 bushing.

s. Remove drill motor and drill.

t. Install drill bushing (detail 160 or 168) to replace drill bushing (detail 161 or 169).

u. Lock drill bushing (detail 160 or 168) in place with set screw (detail 143).

v. Install nose of drill bushing (detail 160 or 168) into 74A331656-2001 bushing.

w. Snug tighten adapter (detail 162) over 74A331656-2003 bushing swage by turning drill guide (detail 165).

x. Lock drill guide (detail 165) in place with set screws (detail 164) two places.

y. Install 0.6170 inch diameter drill, to replace 0.500 inch diameter drill, into drill motor.

z. Install drill through adapter (detail 157), threaded spacers (details 163 and 156) into drill bushing (detail 160 or 168) and attach drill motor to adapter (detail 157).

aa. Drill 0.6170 inch diameter hole through 74A331645 bushing.

ab. Remove drill motor and drill.

ac. Install drill bushing (detail 159 or 167) to replace drill bushing (detail 160 or 168).

ad. Lock drill bushing (detail 159 or 167) in place with set screw (detail 143).

ae. Install nose of drill bushing (detail 159 or 167) into 74A331656-2001 bushing.

af. Snug tighten adapter (detail 162) over 74A331656-2003 bushing swage by turning drill guide (detail 165).

ag. Lock drill guide (detail 165) in place with set screws (detail 164) two places.

ah. Install 0.625 inch diameter reamer, to replace 0.6170 inch diameter drill, into drill motor.

ai. Install reamer through adapter (detail 157), threaded spacer (details 163 and 156) into drill bushing (detail 159 or 167) and attach drill motor to adapter (detail 157).

aj. Ream 0.6245 +0.0022 -0.0000 inch diameter hole through 74A331656-2001, 74A331645, and 74A331656-2003 bushings.

ak. Remove drill motor and reamer.

al. Remove coolant line from quick disconnect (detail 153).

am. Loosen set screws (detail 164) and retract drill guide (detail 165) and adapter (detail 162) to clear 74A331656-2003 bushing.

Drill Jig, Center RE174331670-1, -2
Engine Bay Door
Bushing Fus/Drop
Link

an. Repeat steps a through am at required locations.

ao. Remove support (detail 141) from aircraft, clean and store.

ap. Open lockset or remove fasteners as required that were providing additional support for door.

aq. Clean door of all contaminants.

ar. Install lockset assembly as required on door 68 (WP019 00 or WP019 01).

as. Refinish as required (A1-F18AC-SRM-500, WP036 00).

at. Install engine (A1-F18AC-270-300, WP003 00).

au. Install door 68 (WP019 00 or WP019 01).

av. Close door 64 (A1-F18AC-LMM-010).

aw. Remove 74D110132-1001 horizontal stabilator position support (A1-F18AC-PCM-000).

14. BUSHING 74A331645 REMOVAL, INSTALLATION, DRILLING, AND REAMING. See figure 1.

Support Equipment Required

NOTE

Alternate item type designations or part number are listed in parentheses.

Nomenclature	Part Number or Type Designation
Drill Adapter, Rockwell	1018792
Drill Motor, Rockwell (Drilling Machine, Positive Feed, Right Angle, 140 RPM)	41PA7350A (74D110314-1007)
Portable Strain Indicator	P-3500
Torque Wrench, 0 to 200 Inch-Pounds	-

Materials Required

Nomenclature	Specification or Part Number
Bushing (AR)	74A331645
Bushing (AR)	74A331656-2001
Bushing (AR)	74A331656-2003

a. Remove 74A331645 bushing per Bushing 74A331645 Removal, this WP.

b. Install 74A331645 bushing per Bushing 74A331645 Installation, this WP.

c. Install door 68 on aircraft securing all fasteners tight.

d. Close lockset or install fasteners, as required, through remaining sets of bushings not being worked

for added door support. For bushings in Y645.850 structure go to next step; for bushings in Y657.350 structure go to step aw.

NOTE

Trial fit drill guide (detail 144) into 74A331656-2001 bushing counterbore, if it fits, use it. If it does not fit, use drill guide (detail 166).

e. Install knurled nut (detail 142) onto drill guide (detail 144 or 166), detail J.

f. Install drill guide (detail 144 or 166) into support (detail 141) until it protrudes through opposite side.

NOTE

Detail 163 is used with Rockwell drill. Detail 155 is used with GFE drill.

g. Install threaded spacer (detail 163 or 155) onto adapter (detail 157).

h. Install threaded spacer (detail 156) onto adapter (detail 157).

i. Install adapter (detail 157) into support extension (detail 145).

j. Install O-ring (detail 154) into each side of retainer (detail 152).

k. Install retainer (detail 152) onto drill bushing (detail 151).

l. Install drill bushing (detail 151) into support (detail 141).

m. Lock drill bushing (detail 151) in place with set screw (detail 143).

n. Install nose of drill bushing (detail 151) into 74A331656-2003 bushing swage.

o. Snug tighten drill guide (detail 144 or 166) into 74A331656-2001 bushing counterbore.

p. Lock drill guide (detail 144 or 166) in place with knurled nut (detail 142).

q. Install 0.500 inch diameter drill into right angle power feed drill motor (drill motor).

r. Install drill through adapter (detail 157), threaded spacers (details 163 or 155 and 156) into drill bushing (detail 151) and attach drill motor to adapter (detail 157).

s. Connect coolant lines to quick disconnect (detail 153).



Beryllium

14

WARNING

Material used to fabricate repair bushing contains beryllium. Particles can cause lung damage and allergic symptoms. Avoid skin contact, protect face and eyes, use respirator.

t. Drill 0.500 inch diameter hole through 74A331645 bushing.

u. Remove drill motor and drill.

v. Install drill bushing (detail 149) to replace drill bushing (detail 151).

w. Lock drill bushing (detail 149) in place with set screw (detail 143).

x. Snug tighten drill guide (detail 144 or 166) into 74A331656-2001 bushing counterbore.

y. Lock drill guide (detail 144) in place with knurled nut (detail 142).

z. Install 0.6170 inch diameter drill, to replace 0.500 inch diameter drill, into drill motor.

aa. Drill 0.6170 inch diameter hole through 74A331645 bushing.

ab. Remove drill motor and drill.

ac. Install drill bushing (detail 150) to replace drill bushing (detail 149).

ad. Install 0.625 inch diameter reamer, to replace 0.6170 inch diameter drill, into drill motor.

ae. Snug tighten drill guide (detail 144 or 166) into 74A331656-2001 bushing counterbore.

af. Lock drill guide (detail 144 or 166) in place with knurled nut (detail 142).

ag. Install reamer through adapter (detail 157), threaded spacers (details 163 or 155 and 156) into drill bushing (detail 150) and attach drill motor to adapter (detail 157).

ah. Ream 0.6245 +0.0022 -0.0000 inch diameter hole through 74A331645 bushing.

ai. Remove drill motor and reamer.

aj. Remove coolant line from quick disconnect (detail 153).

ak. Loosen knurled nut (detail 142) and retract drill guide (detail 144 or 166) to clear 74A331656-2001 bushing.

al. Repeat steps a through ak at required locations.

am. Remove support (detail 141) from aircraft, clean and store.

an. Open lockset or remove fasteners as required that were providing additional support for door.

ao. Clean door of all contaminants.

ap. Install lockset assembly as required on door 68 (WP019 00 or WP019 01).

aq. Refinish as required (A1-F18AC-SRM-500, WP036 00).

ar. Install engine (A1-F18AC-270-300, WP003 00).

as. Install door 68 (WP019 00 or WP019 01).

at. Close door 64 (A1-F18AC-LMM-010).

au. Remove 74D110132-1001 horizontal stabilator position support (A1-F18AC-PCM-000).

av. Install electrical and hydraulic power to aircraft if required (A1-F18AC-LMM-000).

NOTE

Trial fit drill bushings (details 159, 160, and 161) into counterbore of 74A331656-2001 bushing. If they fit use them; if they do not fit, use drill bushings (details 167, 168, and 169).

aw. Install drill guide (detail 165) into support (detail 141) until it protrudes through opposite side, detail k.

NOTE

Detail 163 is used with Rockwell drill.

ax. Install threaded spacer (detail 163) onto adapter (detail 157).

ay. Install threaded spacer (detail 156) onto adapter (detail 157).

az. Install adapter (detail 157) into support extension (detail 145).

ba. Install O-rings (detail 154) into each side of retainer (detail 152).

bb. Install retainer (detail 152) onto drill bushing (detail 161 or 169).

bc. Install drill bushing (detail 161 or 169) into support (detail 141).

bd. Lock drill bushing (detail 161 or 169) in place with set screw (detail 143).

be. Install nose of drill bushing (detail 161 or 169) into 74A331656-2001 bushing.

bf. Install adapter (detail 162) onto end of drill guide (detail 165).

bg. Snug tighten adapter (detail 162) over 74A331656-2001 bushing swage by turning drill guide (detail 165).

bh. Lock drill guide (detail 165) in place with set screws (detail 164) two places.

bi. Install 0.500 inch diameter drill into right angle power feed drill motor, (drill motor).

bj. Install drill through adapter (detail 157), threaded spacers (details 163 and 156) into drill bushing (detail 161 or 169) and attach drill motor to adapter (detail 157).

bk. Install coolant lines to quick disconnect (detail 153).

WARNING

Material used to fabricate repair bushing contains beryllium. Particles can cause lung damage and allergic symptoms. Avoid skin contact, protect face and eyes, use respirator.

bl. Drill 0.500 inch diameter hole through 74A331645 bushing.

bm. Remove drill motor and drill.

bn. Install drill bushing (detail 160 or 168) to replace drill bushing (detail 161 or 169).

bo. Lock drill bushing (detail 160 or 168) in place with set screw (detail 143).

bp. Install nose of drill bushing (detail 160 or 168) into 74A331656-2001 bushing.

bq. Snug tighten adapter (detail 162) over 74A331656-2003 bushing swage by turning drill guide (detail 165).

br. Lock drill guide (detail 165) in place with set screws (detail 164) two places.

bs. Install 0.6170 inch diameter drill, to replace 0.500 inch diameter drill, into drill motor.

bt. Install drill through adapter (detail 157), threaded spacers (details 163 and 156) into drill bushing (detail 160 or 168) and attach drill motor to adapter (detail 157).

bu. Drill 0.6170 inch diameter hole through 74A331645 bushing.

bv. Remove drill motor and drill.

bw. Install drill bushing (detail 159 or 167) to replace drill bushing (detail 160 or 168).

bx. Lock drill bushing (detail 159 or 167) in place with set screw (detail 143).

by. Install nose of drill bushing (detail 159 or 167) into 74A331656-2001 bushing.

bz. Snug tighten adapter (detail 162) over 74A331656-2003 bushing swage by turning drill guide (detail 165).



Beryllium

ca. Lock drill guide (detail 165) in place with set screws (detail 164) two places.

cb. Install 0.625 inch diameter reamer, to replace 0.6170 inch diameter drill, into drill motor.

cc. Install reamer through adapter (detail 157), threaded spacers (detail 163 and 156) into drill bushing (detail 159 or 167) and attach drill motor to adapter (detail 157).

cd. Ream 0.6245 +0.0022 -0.0000 inch diameter hole through 74A331645 bushing.

ce. Remove drill motor and reamer.

cf. Remove coolant line from quick disconnect (detail 153).

cg. Loosen set screws (detail 164) and retract drill guide (detail 165) and adapter (detail 162) to clear 74A331656-2003 bushing.

ch. Repeat steps aw through cg at required locations.

ci. Remove support (detail 141) from aircraft, clean and store.

cj. Open lockset or remove fasteners as required that were providing additional support for door.

ck. Clean door of all contaminants.

cl. Install lockset assembly as required on door 68 (WP019 00 or WP019 01).

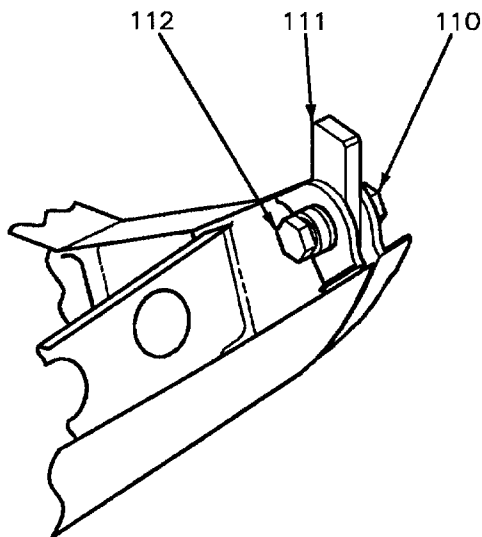
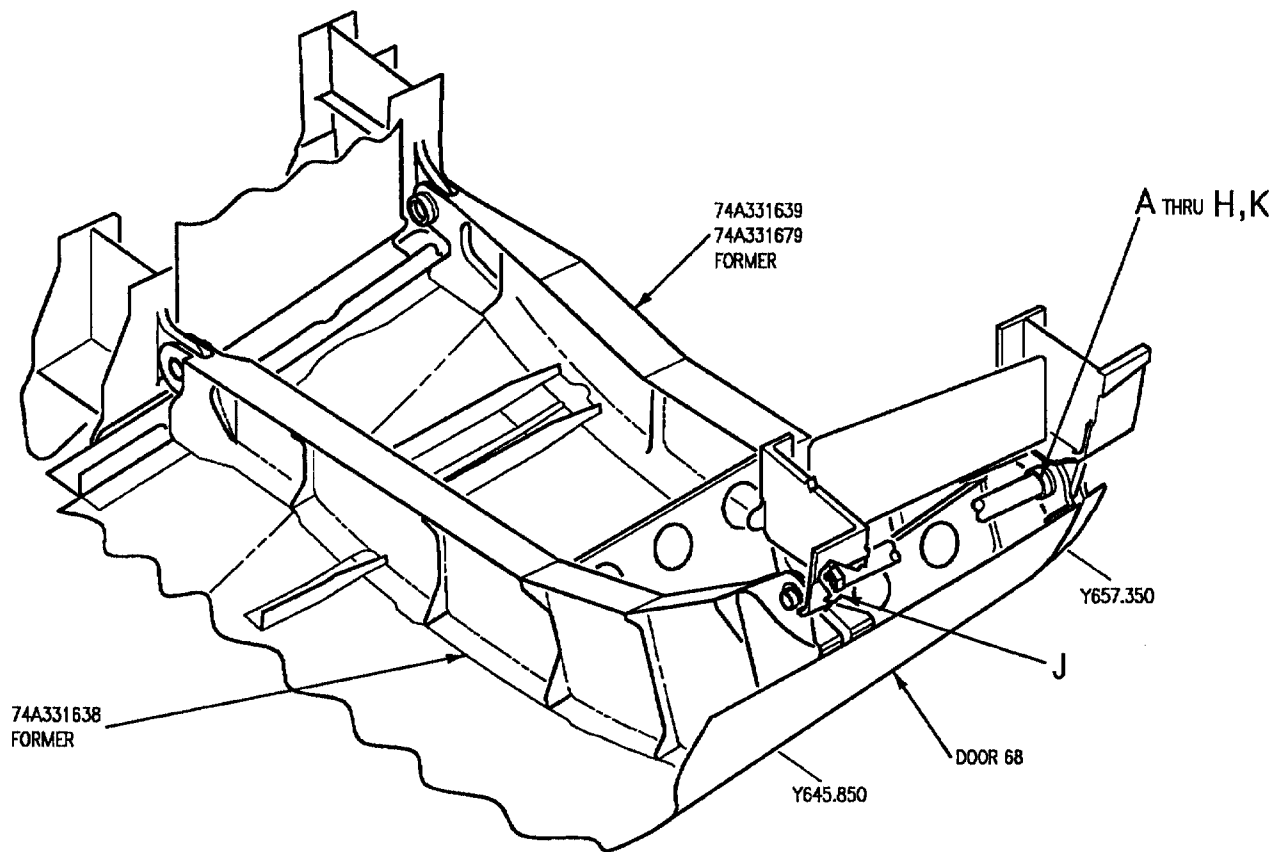
cm. Refinish as required (A1-F18AC-SRM-500, WP036 00).

cn. Install engine (A1-F18AC-270-300, WP003 00).

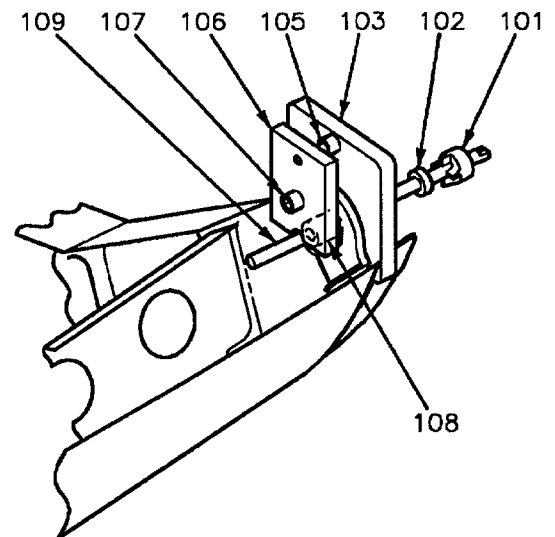
co. Install door 68 (WP019 00 or WP019 01).

cp. Close door 64 (A1-F18AC-LMM-010).

cq. Remove 74D110132-1001 horizontal stabilizer position support (A1-F18AC-PCM-000).



REMOVING BUSHING

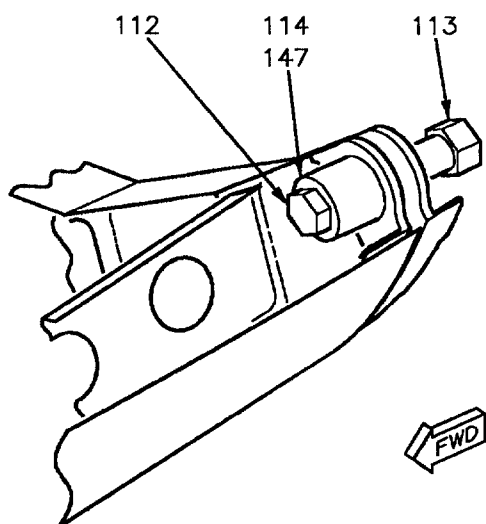


CUTTING BUSHING SWAGE

A

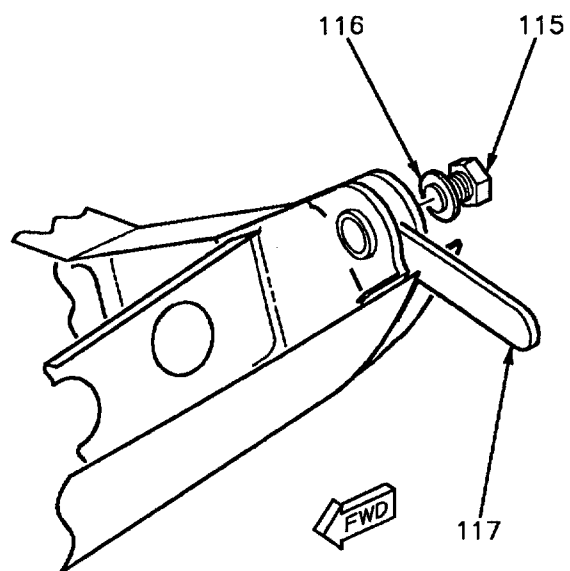
74A331656-2003 BUSHING REMOVAL
TYPICAL FOUR PLACES

Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 1)



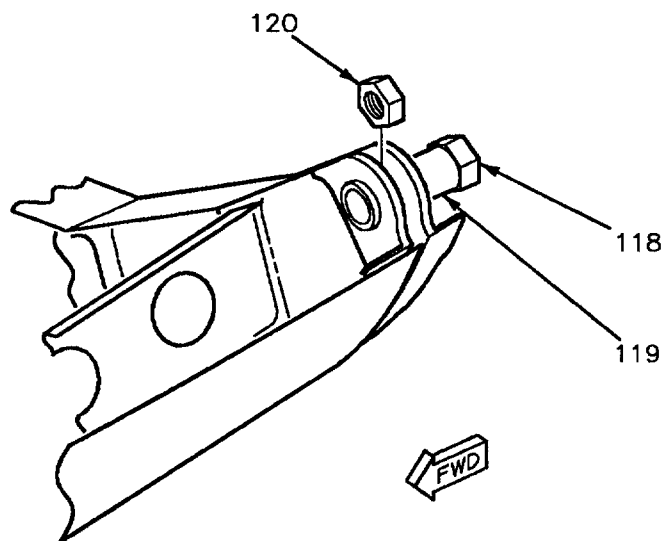
B

74A331656-2001 BUSHING REMOVAL
TYPICAL FOUR PLACES



C

74A331656-2003 BUSHING INSTALLATION
TYPICAL FOUR PLACES



D

SWAGING 74A331656-2003 BUSHING

Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 2)

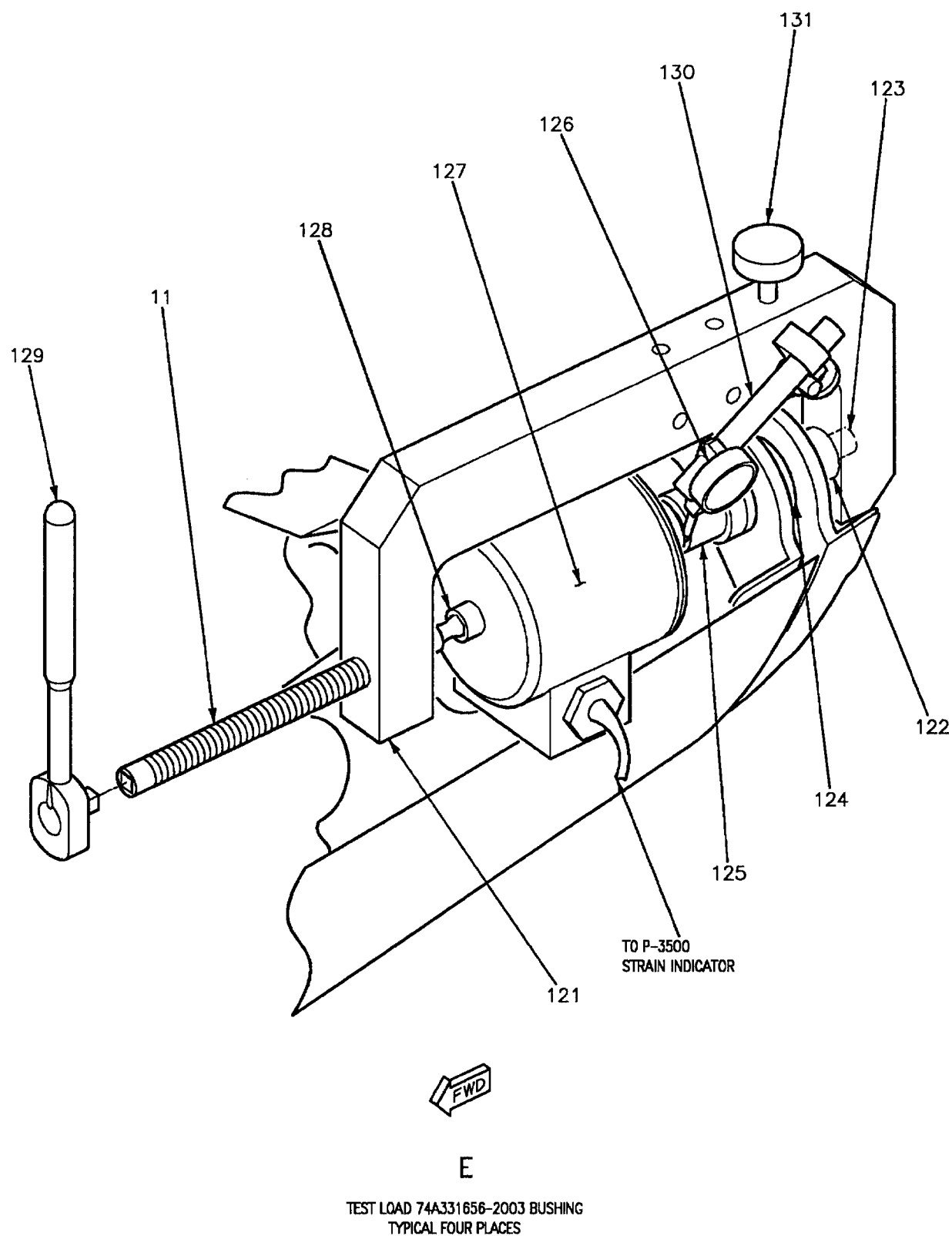


Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 3)

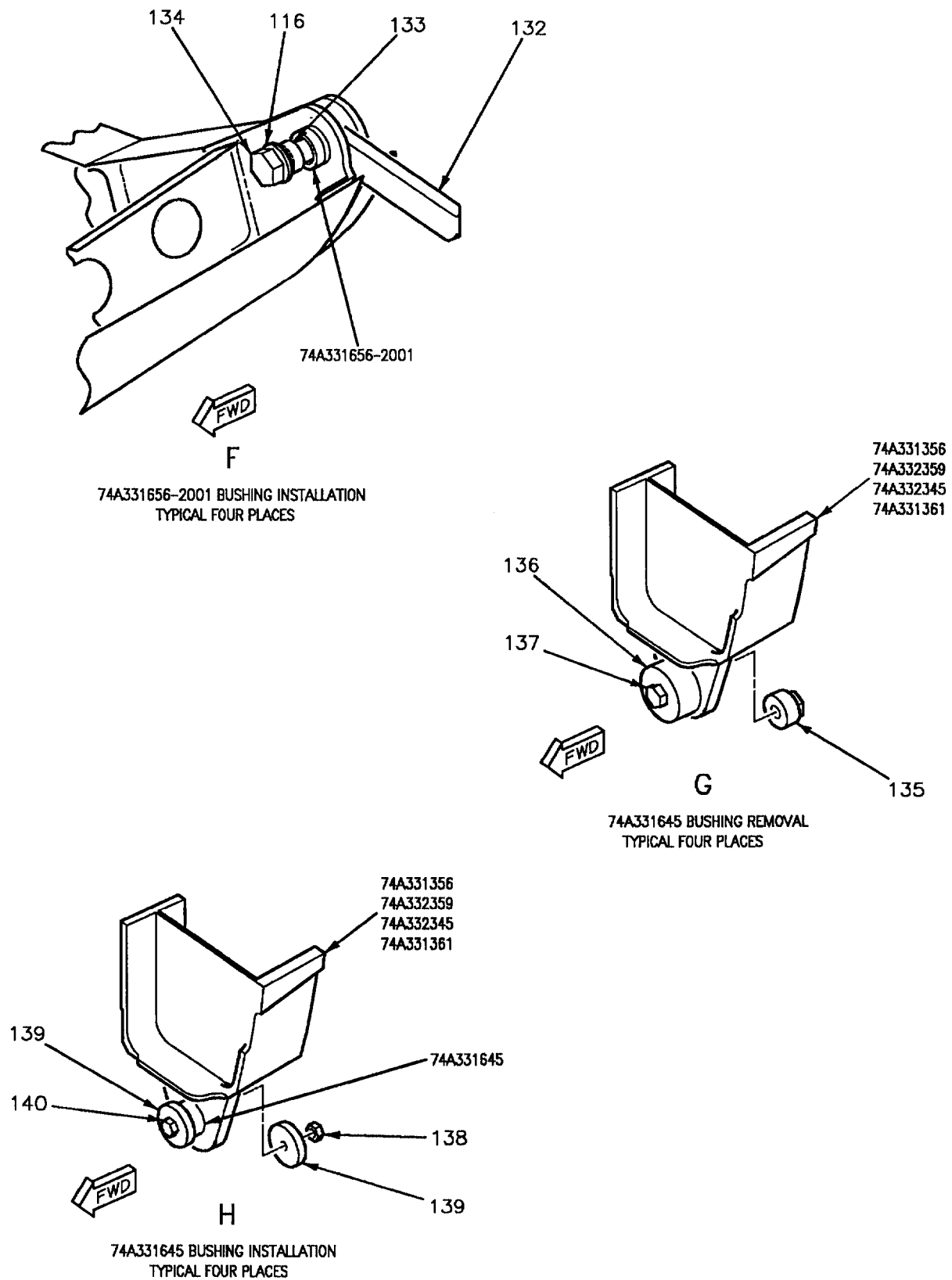
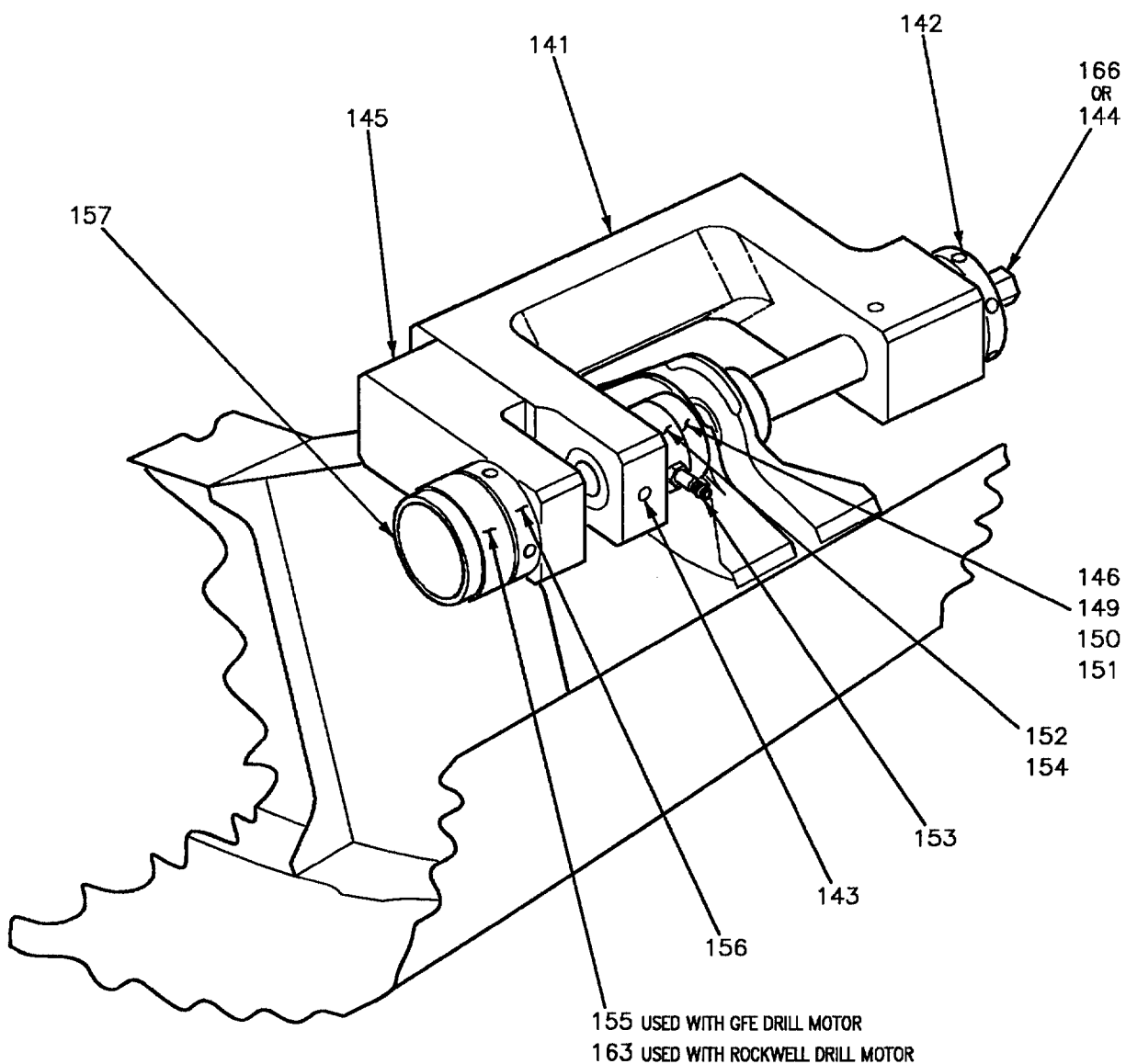


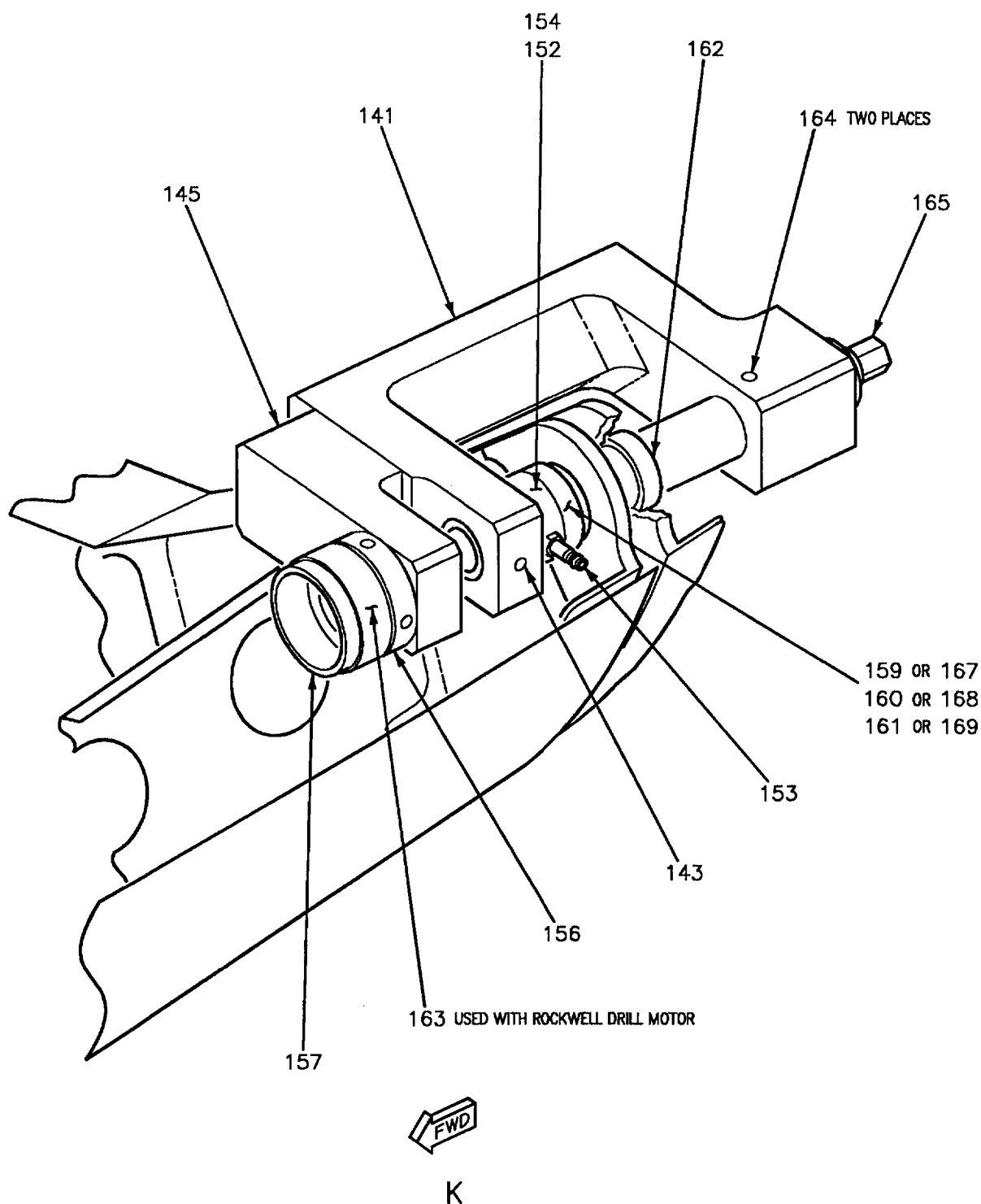
Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 4)



J

IN-LINE DRILLING AND REAMING AT Y645.850
TYPICAL TWO PLACES

Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 5)



IN-LINE DRILLING AND REAMING AT Y657.350
TYPICAL TWO PLACES

Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 6)

Detail No.	Name	Function
11	Weld assembly	Used to exert force on load cell detail 127.
101	Cutter	Used to remove swage from 74A331656-2003 bushing.
102	Cutter stop	Limits depth of cutter detail 101.
103	Plate	Guides cutter drive shaft detail 109 between flanges of former.
105	Sockethead cap screw	Used as stop between plates details 103 and 106.
106	Plate	Used to secure detail 103 in place.
107	Sockethead cap screw	Ties detail 106 to 107 as clamping force.
108	Drill guide	Guides detail 109 through 74A331656-2001 bushing.
109	Cutter drive shaft	Used to attach detail 101 for swage cutting.
110	Nut	Used with details 110 and 112 to remove 74A331656-2003 bushing.
111	Plate	Used with details 110 and 112 to remove 74A331656-2003 bushing.
112	Bolt	Used with details 110 and 111 to remove 74A331656-2003 bushing.
113	Hollow threaded bolt	Used with details 112, 114, or 147 to remove 74A331656-2001 bushing.
114	Counterbored spacer	Used with details 112 and 113 to remove 74A331656-2001 bushing.
115	Bolt	Used with details 116 and 117 to install 74A331656-2003 bushing.
116	Washer	Used with details 115 and 117 to install 74A331656-2003 bushing, and detail 134.
117	Threaded plate	Used with details 115 and 116 to install 74A331656-2003 bushing.
118	Bolt	Used with details 119 and 120 to swage 74A331656-2003 bushing.
119	Swaging tool	Used with details 118 and 120 to swage 74A331656-2003 bushing.
120	Nut	Used with details 118 and 119 to swage 74A331656-2003 bushing.
121	Frame	Used to hold various details for test loading 74A331656-2003 bushing.
122	Sleeve	Used to exert direct force on bushing.

Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 7)

Detail No.	Name	Function
123	Pin	Used to support details 122, 124, and 125.
124	Sleeve	Used to contain bushing.
125	Threaded hollow spacer	Used to exert force on detail 124.
126	Dial indicator	Used to read movement of bushing.
127	Load cell	Used to test load 74A331656-2003 bushing.
128	Sockethead cap screw	Used to transmit load to detail 127.
129	Ratchet wrench	Used to turn weld assembly, detail 11.
130	Gage mount	Used to mount dial indicator, detail 126.
131	T-screw	Used to mount detail 130 to detail 121.
132	Threaded Plate	Used with details 116, 133, and 134 to install 74A331656-2001 bushing.
133	Sleeve	Used with details 116, 132, and 134 to install 74A331656-2001 bushing.
134	Bolt	Used with details 116, 132, and 133 to install 74A331656-2001 bushing.
135	Nut	Used with details 136 and 137 to remove 74A331645 bushing.
136	Counterbored spacer	Used with details 135 and 137 to remove 74A331645 bushing.
137	Bolt	Used with details 136 and 137 to remove 74A331645 bushing.
138	Nut	Used with details 139 and 140 to install 74A331645 bushing.
139	Washer	Used with details 138 and 140 to install 74A331645 bushing.
140	Bolt	Used with details 138 and 139 to install 74A331645 bushing.
141	Support	Used with detail 145 to support various details for drilling and reaming.
142	Knurled nut	Used to lock detail 144 in place.
143	Set screw	Used to lock various details in place.
144	Drill guide	Sets detail 141 to 74A331656-2001 bushing.
145	Support extension	Used to support details 155, 156, and 157.
146, 151	Drill bushing	Used to guide 0.500 inch diameter drill.

Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 8)

Detail No.	Name	Function
149	Drill bushing	Used to guide 0.6170 inch diameter drill.
150	Drill bushing	Used to guide 0.6243 inch diameter reamer.
152	Retainer	Used to contain coolant during drilling and reaming operations.
153	Quick disconnect	Used for attaching coolant lines.
154	O-ring	Used to contain coolant.
155	Threaded spacer	Used with details 156 and 157 for drill adapter.
156	Threaded spacer	Used with details 155 and 157 for drill adapter.
157	Adapter	Used with details 155 and 156 for attaching drill motor.
159	Drill bushing	Used to guide 0.6243 inch diameter reamer.
160	Drill bushing	Used to guide 0.6170 inch diameter drill.
161	Drill bushing	Used to guide 0.5000 inch diameter drill.
162	Adapter	Used to adapt detail 144 to mate 74A331656-2003 bushing.
163	Threaded spacer	Used with details 156 and 157 for drill adapter.
164	Set screw	Used to secure detail 165.
165	Drill guide	Sets detail 162 to swaged bushing.
166	Drill guide	Sets detail 141 to 74A331656-2001 bushing.
167	Drill bushing	Used to guide 0.6243 inch diameter reamer.
168	Drill bushing	Used to guide 0.6170 inch diameter drill.
169	Drill bushing	Used to guide 0.5000 inch diameter drill.

Figure 1. Bushing Removal, Installation, Drilling And Reaming (Sheet 9)

DEPOT MAINTENANCE
STRUCTURE REPAIR
AFT ENGINE ACCESS DOOR (DOOR 74)
AND AFT SECTION OF COMBINED ENGINE ACCESS DOOR (DOOR 68)
MAINTENANCE FIXTURE, RE174330616-1, -2

Reference Material

Structure Repair, Aft Fuselage A1-F18AC-SRM-240
 Combined Aft and Center Engine Access Door (Door 68), Effectivity: 161742 AND UP WP019 01

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Prepare Door Assembly Before Loading	3
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Installation of Maintenance Fixture Into Maintenance Stands	2
Installation of Maintenance Stands RE474000002-1 For Use With Aft Engine Access Door Maintenance Fixture	1

Record of Applicable Technical Directives

None

1. INSTALLATION OF MAINTENANCE STANDS RE474000002-1 FOR USE WITH AFT ENGINE ACCESS DOOR MAINTENANCE FIXTURE. See figure 1.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Hoist, Overhead	-
Maintenance Stand	RE474000002-1

a. Hoist maintenance stands (stands) with an overhead hoist attached to hoist fitting (detail 128).

b. Position stand as listed:

(1) Center stud bolts (detail 121) in slot in plate (detail 13C), view B.

(2) Distance between indentations in heads of stud bolts (detail 121) is 53.6 inches plus or minus 1.0 inch.

(3) Align centerline of spindles (detail 13) in line within 1.5 degrees of each other.

c. Anchor each stand to floor with six 3/8-inch bolts.

d. Disengage L-pin (detail 14) from spindles (detail 13), rotate until plate (detail 13C) is parallel to floor with head of stud bolt (detail 121) up.

Materials Required

Nomenclature	Specification or Part Number
Bolts (12)	3/8-inch

e. Reengage L-pin (detail 14) with spindles (detail 13).

f. Support the adjustable support (detail 12) with an overhead hoist attached to hoist fitting ring (detail 128), remove cotter pin (detail 110), two nuts (detail 111), washer (detail 112) from T-pin (detail 108), view C.

g. Remove T-pin (detail 108) from adjustable support (detail 12) and lower support (detail 11), view C.

h. Raise adjustable support (detail 12) until the upper surface of the plate (detail 13C) is 36.0 inches above floor. Re-install T-pin (detail 108) into lower support (detail 11) and adjustable support (detail 12), view C.

i. Install washer (detail 112), two nuts (detail 111), and cotter pin (detail 110) on T-pin (detail 108) and tighten nut (detail 111), view C.

j. Loosen jamnut (detail 115) and nut (detail 116) on eyebolt (detail 119), rotate eyebolt (detail 119) clear of plate (detail 13C), view A.

k. Swing upper plate (detail 101) clear of plate (detail 13C), view D.

l. Loosen jamnut (detail 115) and adjust nut (detail 114) to obtain a 0.40 inch preload dimension on disc springs (detail 117) two places each stand, view D.

m. Tighten jamnut (detail 115) after preload dimension is reached, two places each stand, view D.

2. **INSTALLATION OF MAINTENANCE
FIXTURE INTO MAINTENANCE
STANDS.** See figure 2.

Support Equipment Required

Nomenclature	Part Number or Type Designation
Hoist, Overhead	-

Materials Required

None

a. Remove tooling plate (detail 101) from maintenance fixture before hoisting.

b. Hoist maintenance fixture (fixture) in the horizontal position with on overhead hoist attached to four hoist fittings (detail 161).

WARNING

Inspect L-pins (detail 14) on maintenance stands (stands) to make sure they are fully engaged with spindle (detail 13). A disengaged spindle (detail 13) may rotate and could cause injury or damage to fixture.

c. Lower fixture aligning counter bores in end plates (detail 29) on fixture with stud bolt (detail 121) on stands, view A.

d. Swing upper plate (detail 101) on stand over end plate (detail 29) on fixture, view A.

e. Swing eyebolt (detail 119) down into slot in plate (detail 13C), tighten nut (detail 116) clamping fixture to stand and tighten jamnut (detail 115) to nut (detail 116) in place, view A.

f. Disconnect overhead hoist from four hoist fittings (detail 161) on fixture.

g. Install tooling plate (detail 101) on maintenance fixture.

h. Rotate fixture, check to make sure it clears floor and stands.

3. **INSTALLATION OF DOOR INTO
MAINTENANCE FIXTURE.** See figures 2 and 3.

Support Equipment Required

Part Number or Type Designation	Nomenclature
-	C-Clamps (as required)

Materials Required

None

a. Rotate maintenance fixture (fixture) to horizontal position (parallel to floor) with tooling plates (figure 3 details 101, 102, 103, 104 or 105, and 148) up.

b. Install L-pin (figure 2, detail 14) into spindle (detail 13) on maintenance stands (stands).

WARNING

Inspect L-pins (detail 14) on stands to make sure they are fully engaged with spindle (detail 13). A disengaged spindle (detail 13) may rotate and could cause personnel injury or damage to door fixture.

4. FIXTURE PREPARATION BEFORE LOADING DOOR ASSEMBLY. See figure 3.

- a. For doors on 161353 THRU 161741.

(1) Remove sheets (details 119 and 137), views B and D.

(2) Install subassembly B, sheet 2.

- b. For doors on 161742 AND UP.

(1) Install sheets (details 119 and 137), views D and B.

(2) Remove subassembly B, sheet 2.

c. Remove angle (detail 151) from tooling plate (detail 148), sheet 3.

d. Remove angles (details 109, 111, and 112) and tooling plates (details 104 or 105) as applicable.

e. Remove tooling plates (details 102 and 103), sheet 2.

NOTE

Position details in steps f thru h to receive door assembly.

f. Angles (details 118 and 135), views B and D.

g. Angle (detail 120), view D.

h. Angles (details 138 and 140), view B.

5. PREPARE DOOR ASSEMBLY BEFORE LOADING. On 161742 AND UP remove forward section of door 68 at the 74A331679 former. For fasteners, door 68 replacement (WP019 01). See figure 3, sheet 1.

6. LOADING DOOR INTO MAINTENANCE FIXTURE. See figure 3 and steps listed:

a. Load door onto fixture, resting door on tooling plates (details 101 and 148), sheet 2.

b. Position aft edge of door against tooling plate (detail 148) and outboard edge of 74A330635 former against sheet (details 136 and 144), view B.

NOTE

Details 120, 138, and 140 are to be loose while pinning door to fixture.

c. Secure door to fixture with L-pins (detail 177) into angles (details 120, 138 and 140), views B and D.

d. Set angles (details 120, 138 and 140) to nominal position.

e. Clamp door to tooling plate (detail 101), sheet 2.

f. Tape fairings to make contact with tooling plate (detail 148), view C.

g. Rotate door to inverted position, sheet 3.

NOTE

Reposition details in steps h thru l to set up fixture in preparation for gap measurements.

h. Install subassembly E or F as applicable, sheet 2.

i. Angles (details 118 and 135) to nominal position, views B and D.

j. Install tooling plates (details 102 and 103), sheet 2.

k. Install angles (details 109, 111, and 112) on tooling plates (details 104 or 105) as applicable, and angles (details 110, 113, and 114) two places on tooling plates (details 102 and 103), sheet 2 and view H.

l. Tooling plates (details 102, 103, and 104 or 106) to nominal position, views F and G.

7. VERIFY DIMENSIONS. Verify dimensions for gap and rebuild points, as listed, and figure 3.

a. For doors on 161353 THRU 161741.

(1) Gap between 74A330681 former and tooling plate (detail 101) is net condition, view B.

(2) Gap between 74A330684 former and tooling plate (detail 104) is net condition, view E and F.

(3) Gap between 74A330696 former and sheets (details 122 and 163) and tooling plate (detail 101) is net condition, view D.

(4) Gap between 74A330635 former and sheets (details 136 and 144) and bar (detail 145) is net condition, view B.

(5) Verify position of 0.500 diameter hole in 74A330685 and 74A330686 arms by inserting go-gage (detail 176) through cast bushings (detail 162) two places, view J.

b. For doors on 161742 AND UP.

(1) Gap between 74A330684 former and tooling plate (detail 105) is net condition, view E.

(2) Gap between 74A330696 former and sheets (details 119, 122, and 163) is net condition, view D.

(3) Gap between 74A330635 former and sheets (details 136, 137, and 144) is net condition, view B.

c. Gap between 74A330701 skin and tooling plate (detail 101) is net condition, view B.

d. Gap between 74A330682 former and tooling plate (detail 102) is net condition, view G.

e. Gap between 74A330683 former and tooling plate (detail 103) is net condition, view G.

f. Gap between 74A330837 doors, 74A330832 fairing segments, 74A330835 fairing, and tooling plate (detail 148) is net condition, view C.

g. Gap between 74A330837 doors and 74A330832 fairing segments, nine places, using subassembly G and go-no go gage (detail 168) is 0.030 to 0.130, view K.

h. Setback between 74A330687 intercostals and angles (details 112 and 114) is 0.125 ± 0.030 , view H.

i. Setback between 74A330687 intercostals and angles (details 111 and 113) is 0.125 ± 0.030 , view H.

j. Setback between 74A330687 intercostals and angles (details 109 and 110) is 0.125 ± 0.030 , view H.

k. Gap between 74A330837 door 166 and bar (detail 142) is net condition, view B.

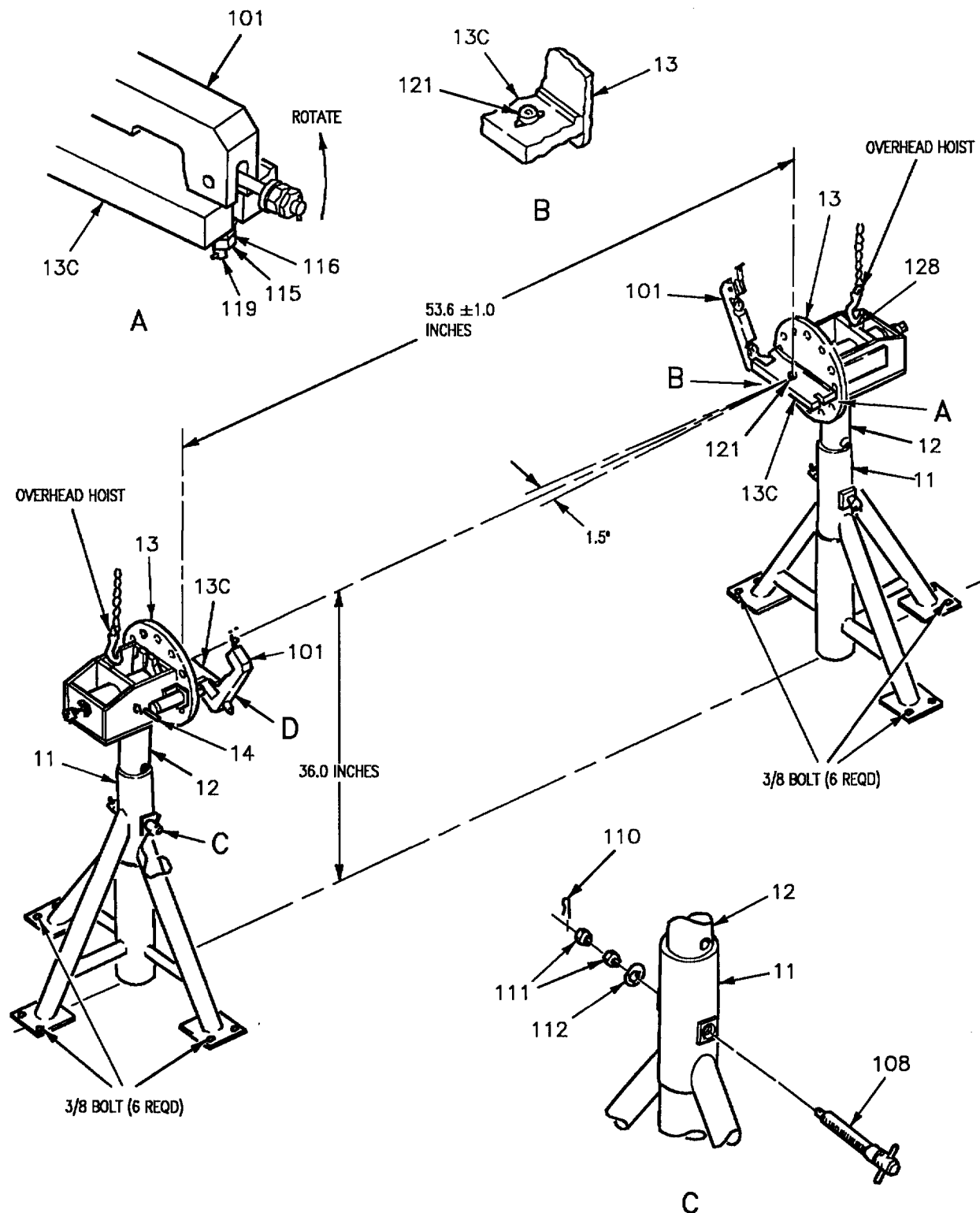
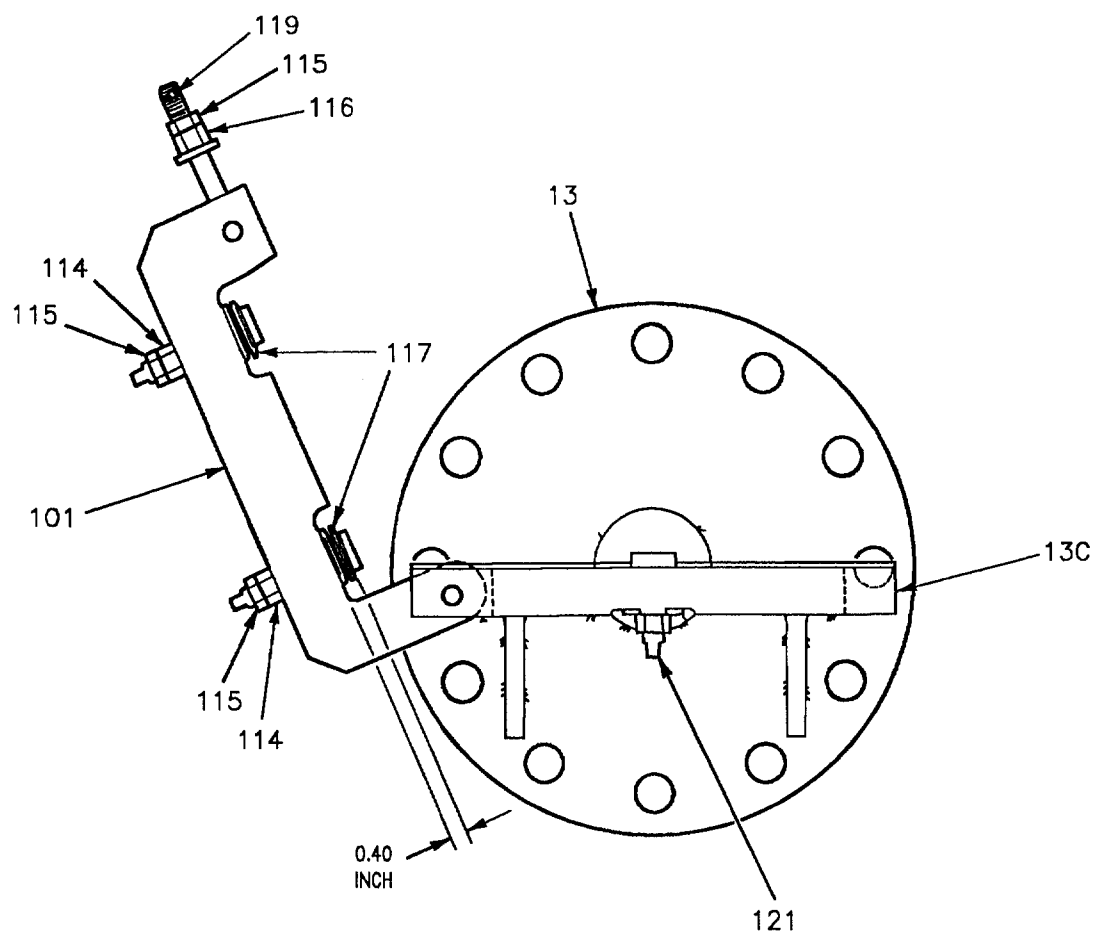


Figure 1. Installation of Maintenance Stands (Sheet 1)



D

Figure 1. Installation of Maintenance Stands (Sheet 2)

Detail No.	Name	Function
11	Lower support	Supports maintenance fixture.
12	Adjustable support	Supports maintenance fixture.
13	Spindle	Supports and rotates maintenance fixture.
13C	Plate	Supports and positions maintenance fixture.
14	L-pin	Locates detail 13.
101	Upper plate	Secures maintenance fixture in place.
108	T-pin	Locates details 11 and 12.
110	Cotter pin	Secures detail 108 in place.
111	Nut	Secures detail 108 in place.
112	Washer	Secures detail 108 in place.
114	Nut	Adjusts preload dimension for detail 117.
115	Jam nut	Secures details 114 and 116 in place.
116	Nut	Secures detail 119 in place.
117	Disc spring	Used for preload dimension.
119	Eye bolt	Secures detail 101.
121	Stud bolt	Aligns maintenance fixture.
128	Hoist fitting	Support maintenance stands while hoisting.

Figure 1. Installation of Maintenance Stands (Sheet 3)

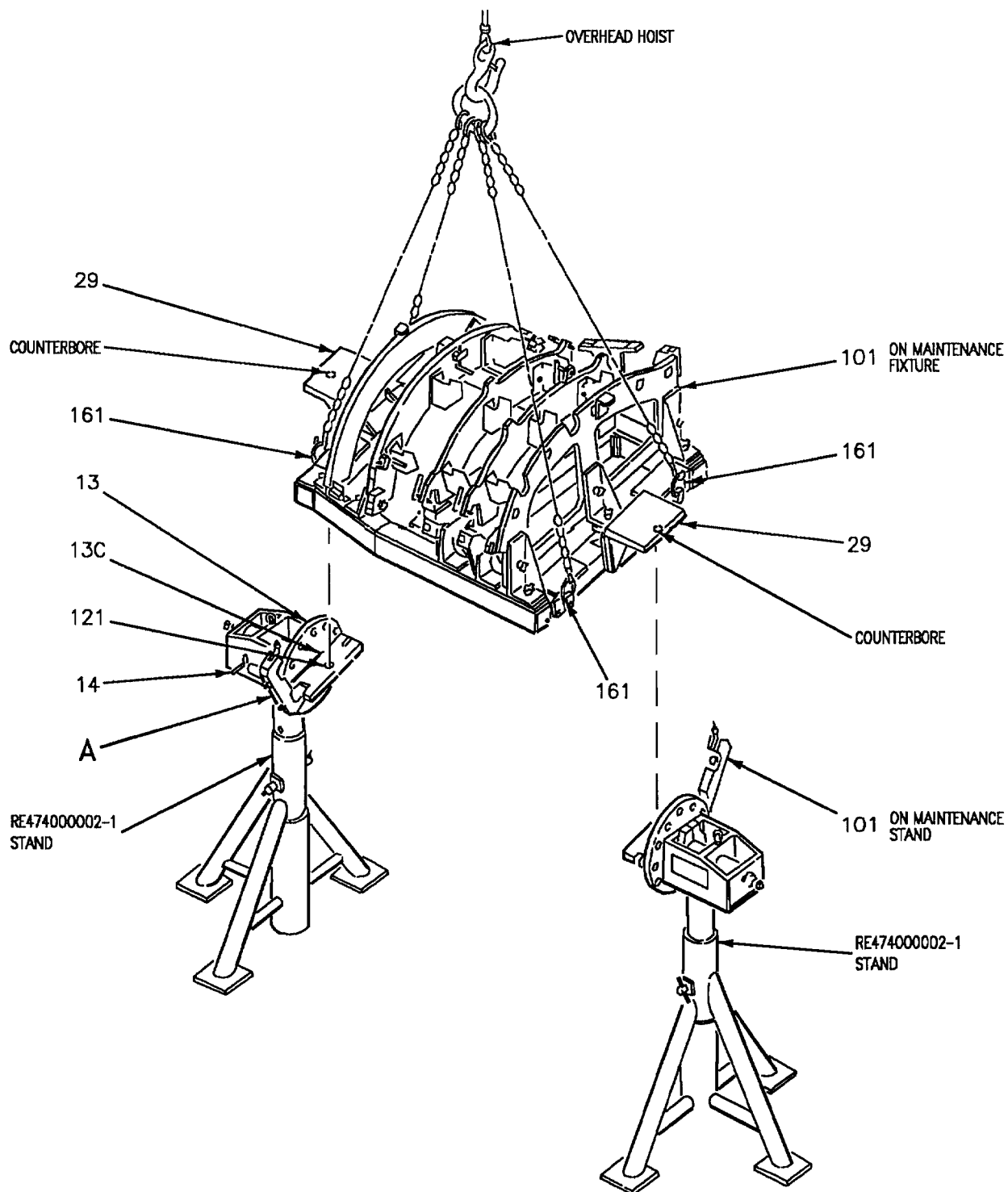
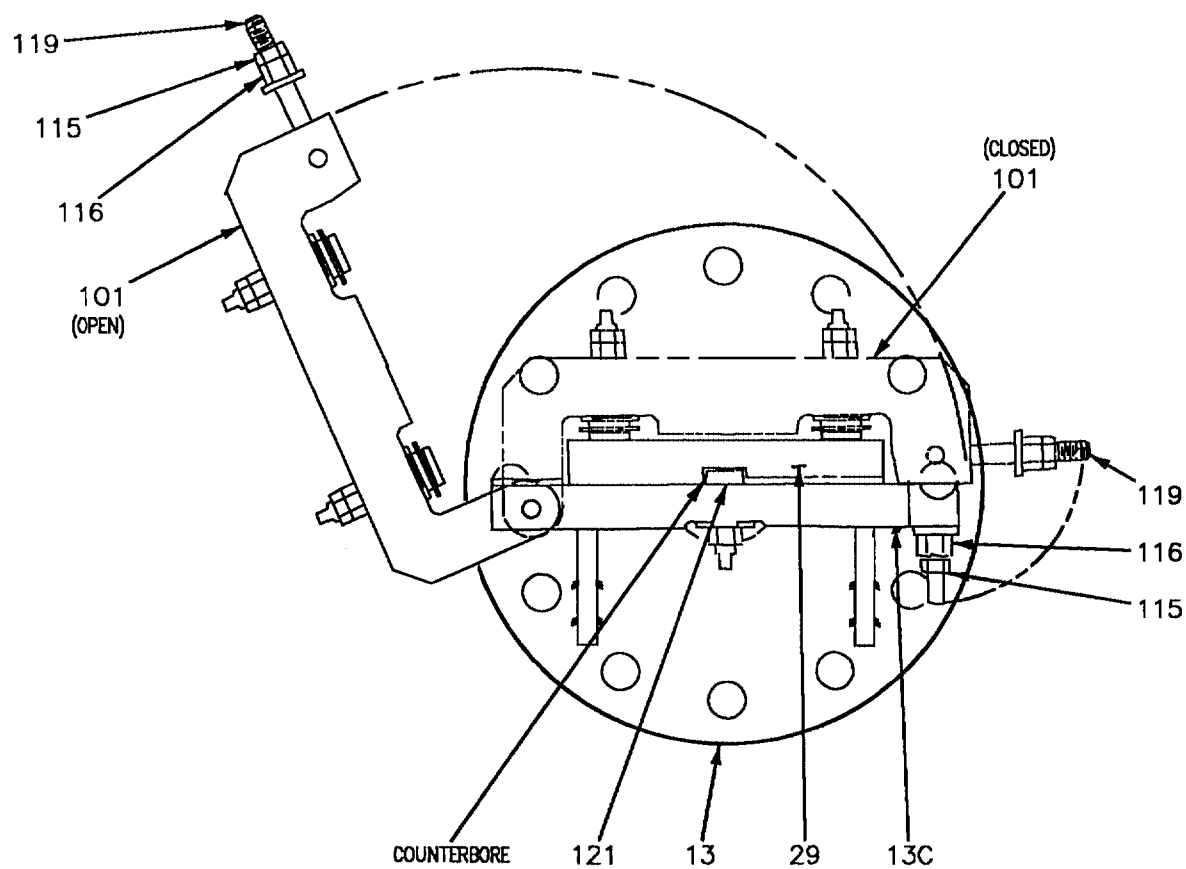


Figure 2. Installation of Maintenance Fixture (Sheet 1)



A

Figure 2. Installation of Maintenance Fixture (Sheet 2)

Detail No.	Name	Function
13	Spindle	Supports and rotates maintenance fixture.
13C	Plate	Supports and positions maintenance fixture.
14	L-pin	Locates detail 13.
29	End plate	Aligns and supports maintenance fixture.
101	Upper plate	Secures maintenance fixture in place.
115	Jam nut	Secures detail 116 in place.
116	Nut	Secures detail 119 in place.
119	Eye bolt	Secures detail 101.
121	Stud bolt	Aligns maintenance fixture.
161	Hoist ring	Used to hoist maintenance fixture.

Figure 2. Installation of Maintenance Fixture (Sheet 3)

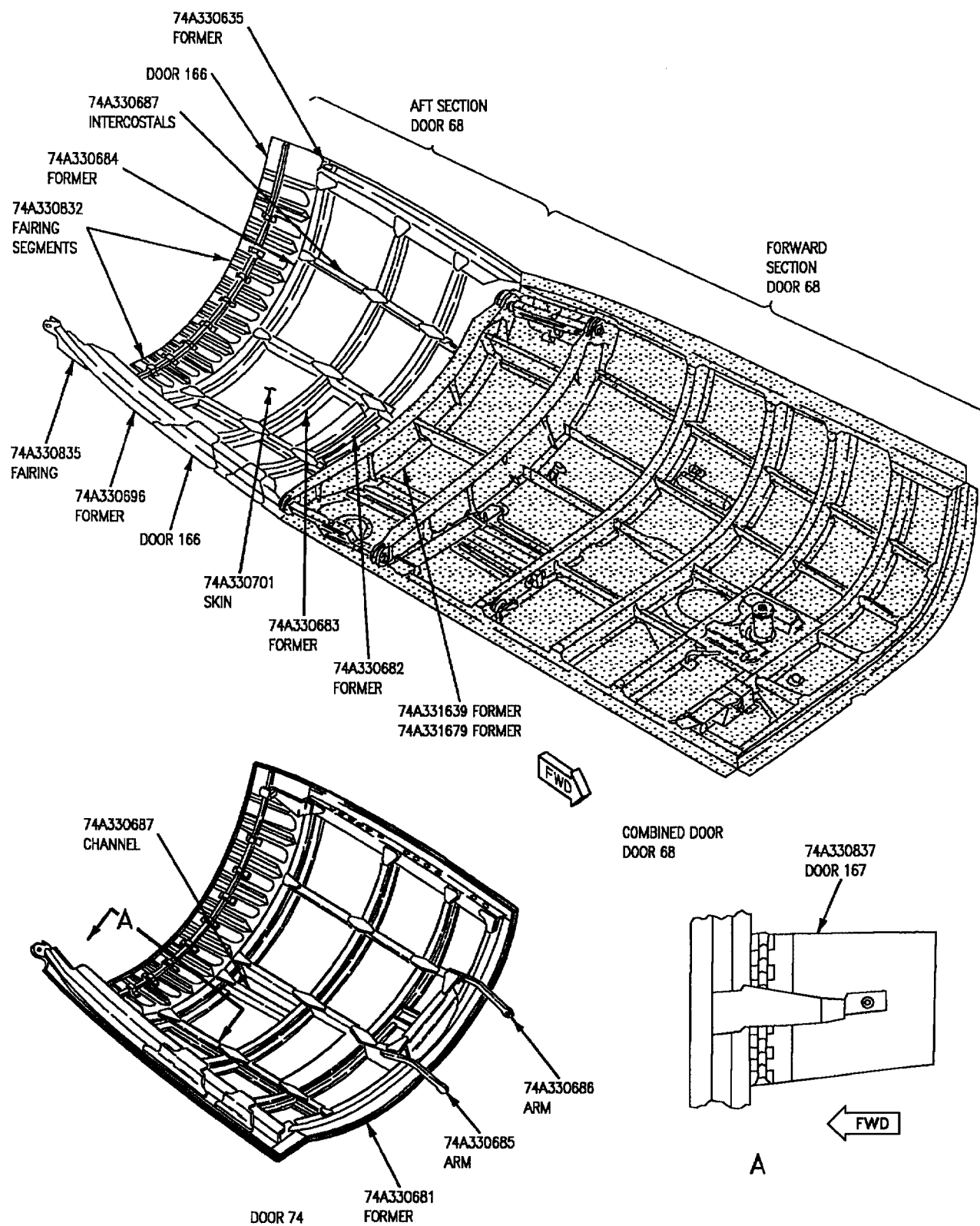


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 1)

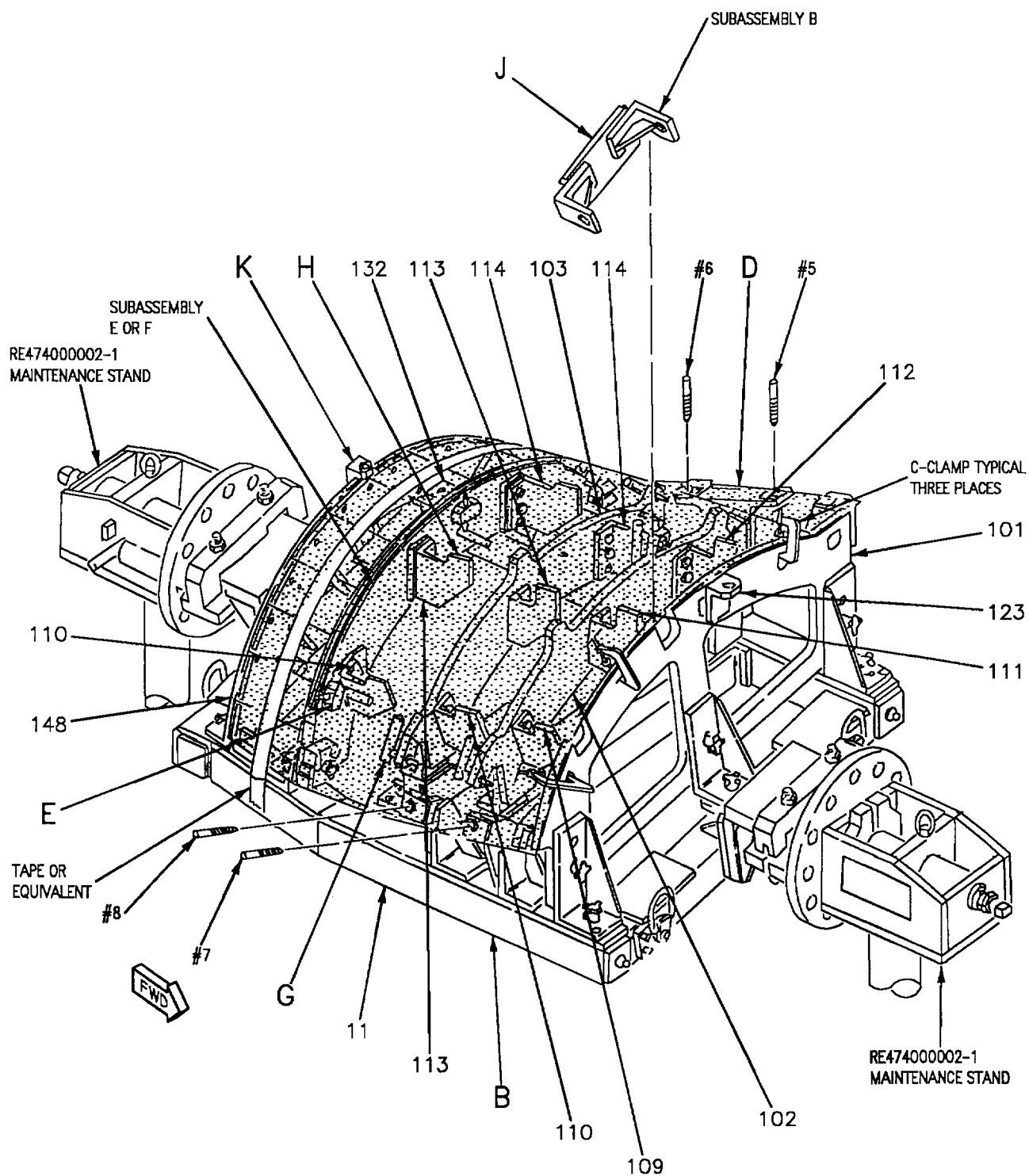


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 2)

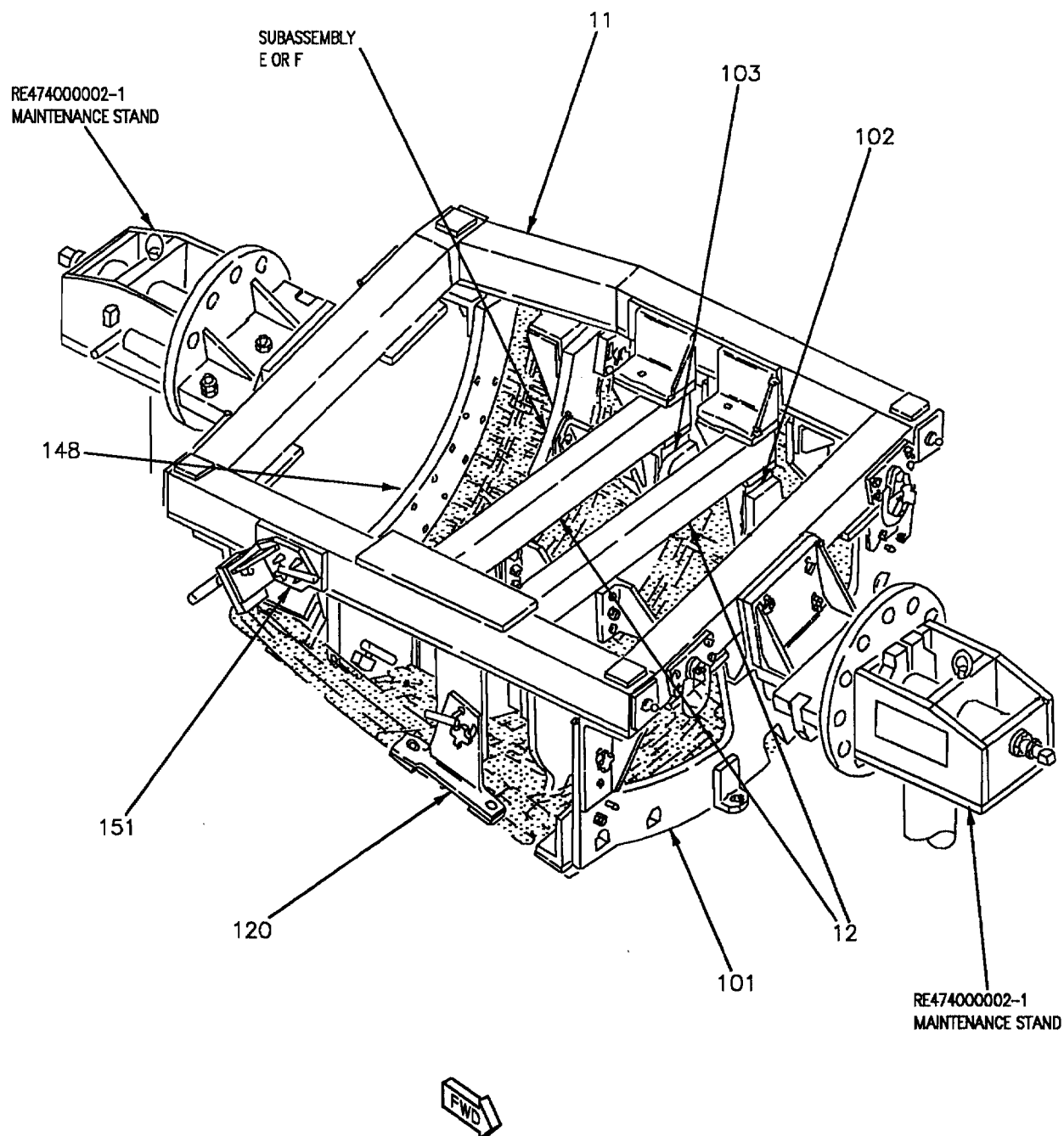


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 3)

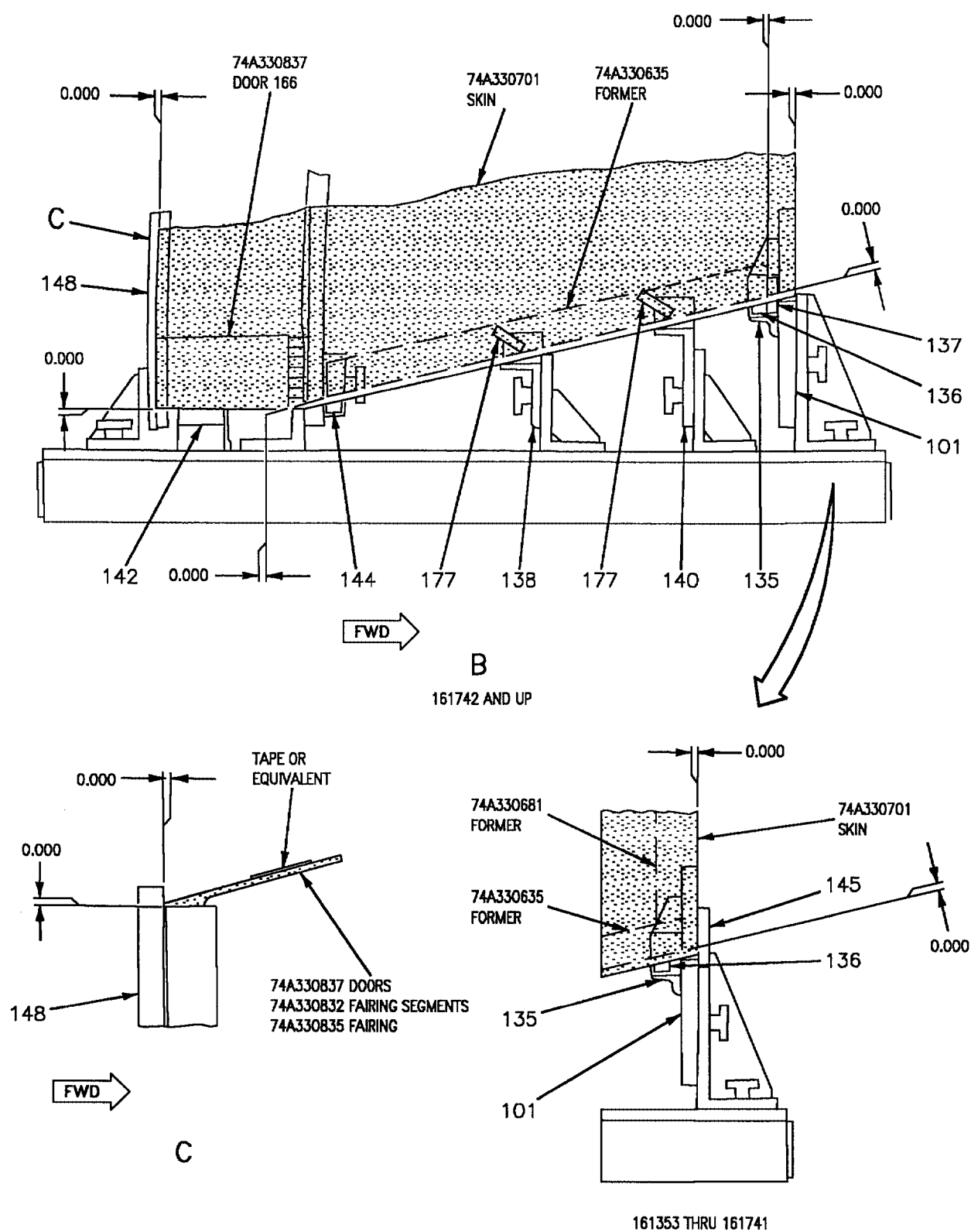


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 4)

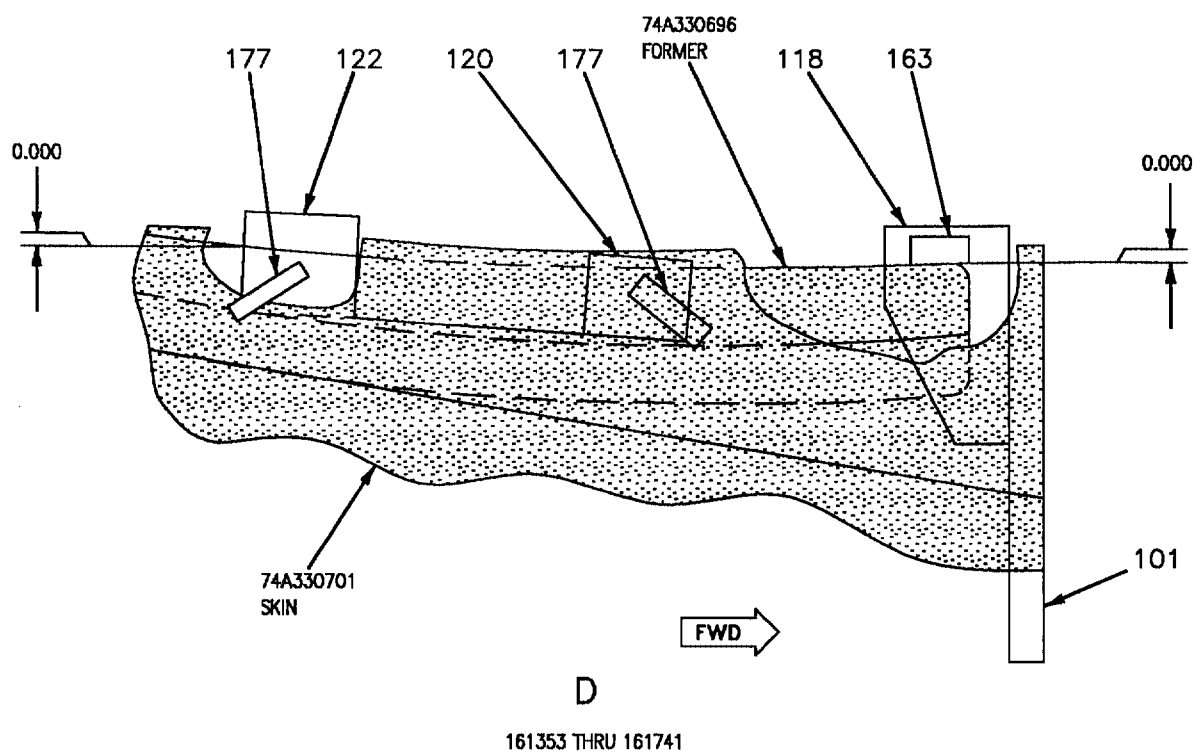
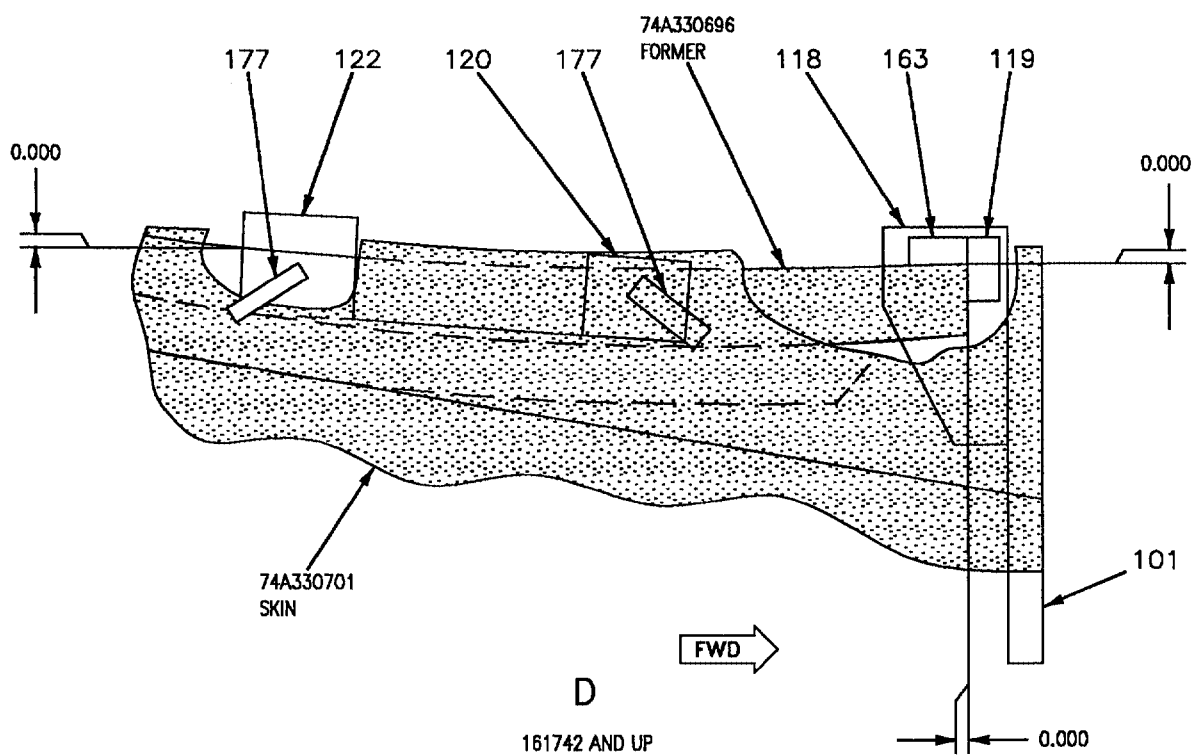


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 5)

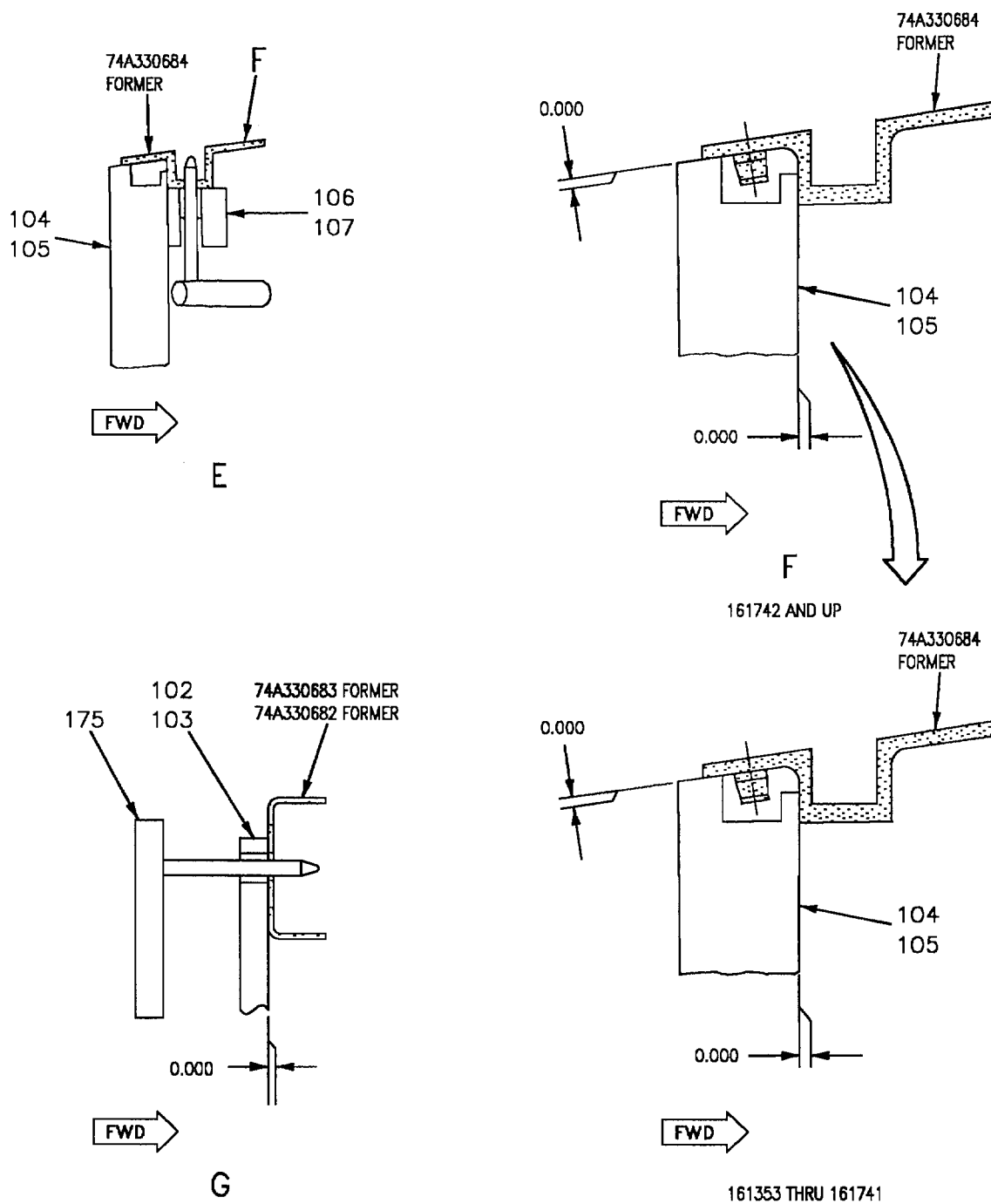


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 6)

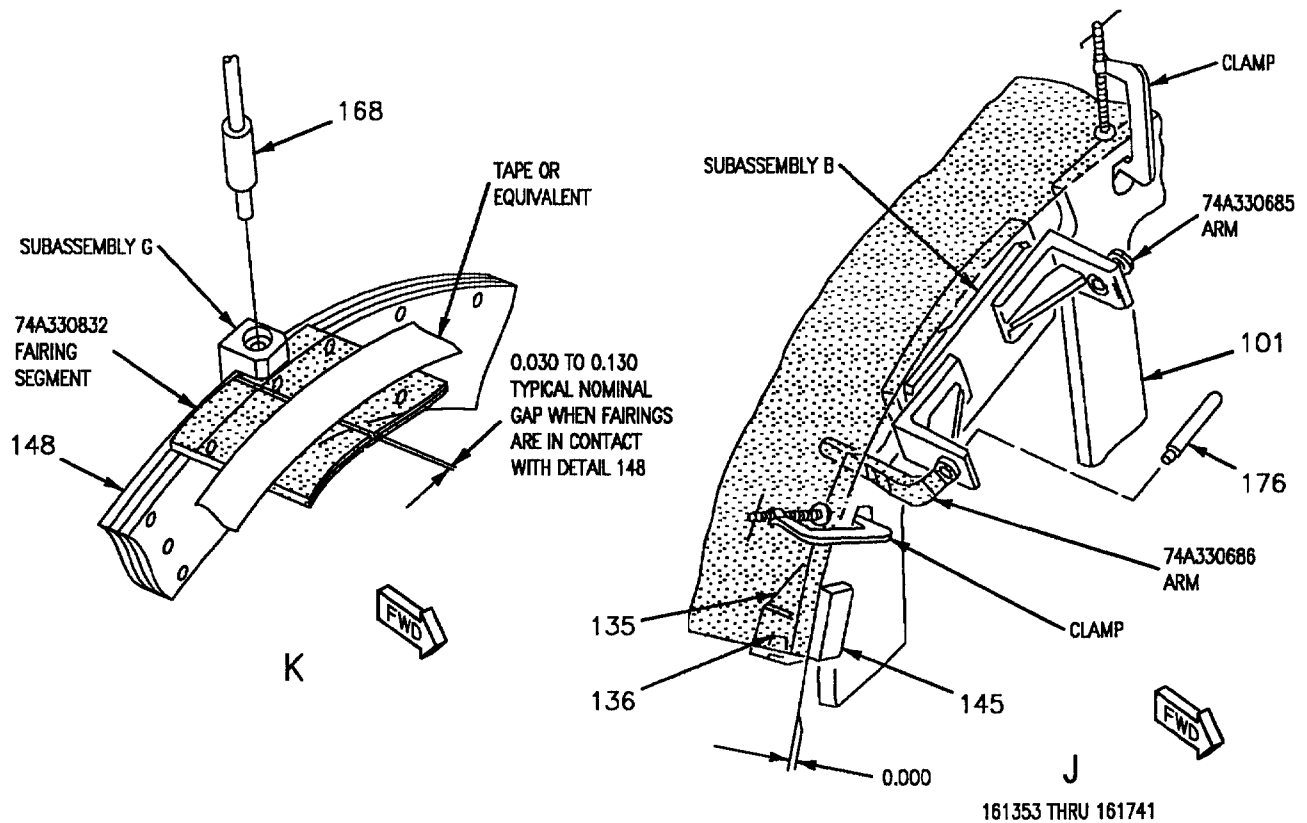
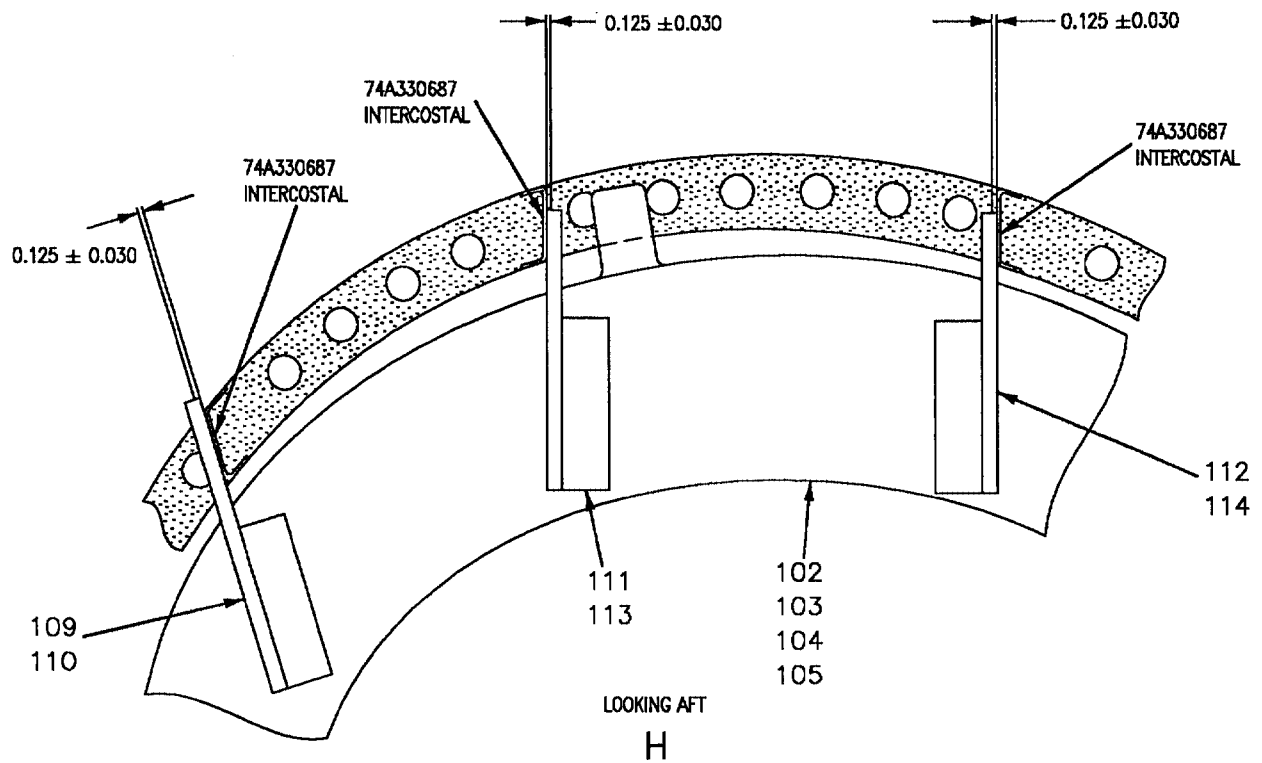


Figure 3. Installation of Door Into Maintenance Fixture (Sheet 7)

Detail No.	Name	Function
Subassembly A	Locator	Used to set 74A330682 former.
Subassembly B	Locator	Locates hinge points for 74A330685 and 74A330686 arms.
Subassembly E	Locator	Used to set 74A330684 former.
Subassembly F	Locator	Used to set 74A330684 former.
Subassembly G	Locator	Used to check gap of fairing segments.
11	Frame assembly	Provides structural support for details.
12	Weld assembly	Supports details 16 and 17.
13	Weld assembly	Supports detail 148.
14	Weld assembly	Supports detail 148.
15	Weld assembly	Supports detail 128 or 129.
16	Weld assembly	Supports subassembly A and detail 103.
17	Weld assembly	Supports subassembly A and detail 103.
18	Weld assembly	Supports detail 138.
19	Weld assembly	Supports detail 146.
20	Weld assembly	Supports detail 120.
21	Weld assembly	Supports detail 101.
22	Weld assembly	Supports detail 101.
23	Weld assembly	Supports detail 101.
24	Weld assembly	Detail of subassembly B.
29	End plate	Aligns and supports maintenance fixture.
30	Weld assembly	Supports subassembly E or F.
31	Weld assembly	Supports subassembly E or F.
32	Weld assembly	Supports detail 12.
101	Tooling plate	Used to set 74A330681 former.
102	Tooling Plate	Detail of subassembly A.
103	Tooling plate	Used to set 74A330683 former.
104	Tooling plate	Detail of subassembly E.
105	Tooling plate	Detail of subassembly F.
106	Bar	Detail of subassembly E and F, used to set 74A330684 former.
107	Bar	Detail of subassembly E and F, used to set 74A330684 former.

Figure 3. Installation of Door Into Maintenance Fixture (Sheet 8)

Detail No.	Name	Function
108	Bushing	Detail of subassembly E and F, guides L-Pin into structure.
109	Angle	Used to set 74A330687 intercostals.
110	Angle	Used to set 74A330687 intercostals.
111	Angle	Used to set 74A330687 intercostals.
112	Angle	Used to set 74A330687 intercostals.
113	Angle	Used to set 74A330687 intercostals.
114	Angle	Used to set 74A330687 intercostals.
115	Bushing	Locates details 109, 110, 111, 112, 113, 114, 148, and 151.
116	Dowel pin	Aligns various details.
117	Socket head capscrew	Secures details to other details.
118	Angle	Supports details 119 and 163.
119	Sheet	Used to set 74A330696 former.
120	Angle	Locates two inboard fastener holes.
121	Cast bushing	Supports detail 173.
122	Sheet	Used to set 74A330696 former.
123	Angle	Locates tab on forward edge of replacement skin. Holds detail 124.
124	Bushing	Used to guide L-pin detail 175.
125	Bar	Detail of subassembly E and F, separates detail 109 from detail 104 or 105.
126	Bar	Detail of subassembly E and F, separates detail 111 from detail 104 or 105.
127	Bar	Detail of subassembly E and F, separates detail 112 from detail 104 or 105.
128	Bar	Used on left hand tool.
129	Bar	Used on right hand tool.
130	Cast bushing	Detail of subassembly E and F, used to guide L-pin detail 175.
131	Sheet	Supports 74A330835 fairing.
132	Bar	Detail of subassembly E and F, locates tab on aft edge of replacement skin. Holds detail 130.

Figure 3. Installation of Door Into Maintenance Fixture (Sheet 9)

Detail No.	Name	Function
133	L-pin	Sets details in position.
134	Bushing	Used to guide L-pin.
135	Angle	Supports details 136 or 137.
136	Sheet	Used to set forward outboard edge of door.
137	Sheet	Used to set forward outboard edge of door.
138	Angle	Locates aft outboard fastener hole.
139	Sheet	Establishes hard surface for detail 103.
140	Angle	Locates forward outboard fastener hole.
141	Angle	Supports detail 142.
142	Bar	Used to set aft outboard edge of 74A330829 door.
143	Bar	Supports detail 144.
144	Sheet	Used to set outboard edge of door.
145	Bar	Used to set 74A330635 former.
146	Bar	Detail of subassembly B, supports detail 24.
147	Slotted bushing	Detail of subassembly A, used to guide L-pin.
148	Tooling plate	Used to support subassembly G and detail 151.
150	Bar	Used to set inboard edge of 74A330829 door.
151	Angle	Supports detail 150.
152	Hand knob	Secures various details in position.
153	Hand knob	Secures various details in position.
154	Hand knob	Secures various details in position.
155	Socket head capscrew	Used to secure detail 19.
156	Socket head shoulder screw	Used as slide guides for various details.
157	Bar	Detail of subassembly A, supports detail 147.
158	Bushing	Used to set detail 164.
160	L-pin	Detail of subassembly B, sets hinge line.
162	Cast bushing	Detail of subassembly B, used to guide L-pin.
163	Sheet	Used to set outboard edge of door.
164	Bar	Detail of subassembly G.

Figure 3. Installation of Door Into Maintenance Fixture (Sheet 10)

Detail No.	Name	Function
165	Bushing	Detail of subassembly G, receives GO, NO-GO gage.
166	Round pin	Detail of subassembly G, fits into detail 158.
167	Diamond pin	Detail of subassembly G, fits into detail 158.
168	GO, NO - GO gage	Checks gap between 74A330831 fairings.
172	Shoulder screw	Secures detail 143 to detail 104 or 105.
173	Bushing	Used to drill numbers 5, 6, 7, and 8 pilot holes.
174	Lock screw	Secures detail 173.
175	L-pin	Sets details in position.
176	GO gage	Determines tolerance of hinge line.
177	L-pin	Secures door to details 120, 138, and 140.

Figure 3. Installation of Door Into Maintenance Fixture (Sheet 11)

DEPOT MAINTENANCE

STRUCTURE REPAIR

COMPONENTS, AFT ENGINE ACCESS DOOR (DOOR 74) AND AFT SECTION OF
COMBINED ENGINE ACCESS DOOR (DOOR 68) REPLACEMENT

Reference Material

Structure Repair, Aft Fuselage	A1-F18AC-SRM-240
Aft Engine Access Door (Door 74) and Aft Section of Combined Engine Access Door (Door 68) Maintenance Fixture, RE174330616-1, -2	WP019 10
Aircraft Corrosion Control	A1-F18AC-SRM-500
Priming Procedures	WP011 00
Aft Fuselage Finish System and Markings	WP036 00
Structure Repair, General Information	A1-F18AC-SRM-200
Oversize Fasteners	WP004 07
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00

Alphabetical Index

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Record of Applicable Technical Directives

None

1. REPAIR EVALUATION.

Support Equipment Required

2. Analysis of door damage is required before a repair disposition can be made.

a. If door is to be reinstalled on the same aircraft, unless damaged, peripheral formers 74A3304635, 74A330681, and 74A330696 do not require replacement.

b. If door is to be installed on another aircraft, damaged and undamaged peripheral formers 74A330635, 74A330681, and 74A330696 must be replaced and remain undrilled in the area of the milson fasteners.

3. **SKIN, 74A330701 REPLACEMENT.** This procedure is for skin replacement on doors reinstalled on the same aircraft. See figures 1 and 2.

Nomenclature	Part Number or Type Designation
Aircraft Structure	74D110325-1001
Repair Tool Kit	
Maintenance Fixture	RE174330616-1, -2

Materials Required

Nomenclature	Specification or Part Number
Cheesecloth	CCC-C-440, Type 1, Class 1
Isopropyl Alcohol	TT-I-735, Grade 1
Scraper, Sealant, 45° Cutting Edge, Phenolic (Micarta or Formica)	-
Sealing Compound	MIL-S-83430, Class B-4

a. Load door into maintenance fixture (fixture) (WP019 10).

b. Remove fasteners attaching skin to structure, figure 2 details B, C, D, and E as applicable, using 74D110325 tool kit.

c. Remove skin from structure.

d. Retain shims and spacers, note locations for reinstallation.

e. Remove sealant from structure with scraper.

f. Remove 74A330832 fairing segment that interferes with replacement skin tooling tab to fixture alignment.

g. Install angle (detail 123) to tooling plate (detail 101) and bar (detail 132) to tooling plate (detail 104 or 105) on fixture, figure 1, views A and B.

h. Position replacement skin tooling tabs with angle (detail 123) and bar (detail 132) into fixture and lock in place with L-pins (detail 175) two places, views A and B. Clamp skin to structure or fixture as required.



Special attention should be taken to make sure alignment of holes in 74A330835 fairing, 74A330837 doors and 74A330832 fairing segments align with holes in 74A330684 former before mate drilling these holes. Misalignment may cause enlarged holes which may cause structural failure.

i. Mate drill holes in replacement skin, figure 2 details B, C, D, and E as applicable.

j. Mate drill four 0.377 +0.005 -0.000 milson fastener holes or eight milson fastener holes, as applicable.

k. Countersink holes using 74D110325 tool kit.

l. Remove L-pins (detail 175) two places and angle detail (123) and bar (detail 132) from fixture, figure 1, views A and B.

m. Remove replacement skin from fixture, figure 2.

n. Install 74A330832 fairing segment that was removed in step f.

o. Deburr holes and trim off tooling tabs from replacement skin.

p. Touch up holes and edge of skin in area of removed tooling tabs (A1-F18AC-SRM-500, WP011 00).



Sealing Compound

2

q. Fay surface seal replacement skin mating surfaces with MIL-S-83430 sealing compound preparation and application (A1-F18AC-SRM-200, WP011 00).

r. Install shims and spacers at noted locations in step d.

s. Secure replacement skin to door structure with temporary fasteners.

t. Install permanent fasteners set wet with MIL-S-83430 sealing compound, sealant preparation and application (A1-F18AC-SRM-200, WP011 00), details B, C, D, and E as applicable.



Isopropyl Alcohol

1

u. Remove excess sealing compound with clean cheesecloth moistened with isopropyl alcohol.

v. Remove door from fixture.

w. On 161742 AND UP, mate drill aft section of door 68 to the 74A331679 former after both forward and aft sections of door 68 have been installed on aircraft, details B and C. First oversize fasteners are permitted, oversize fasteners (A1-F18AC-SRM-200, WP004 07).

x. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

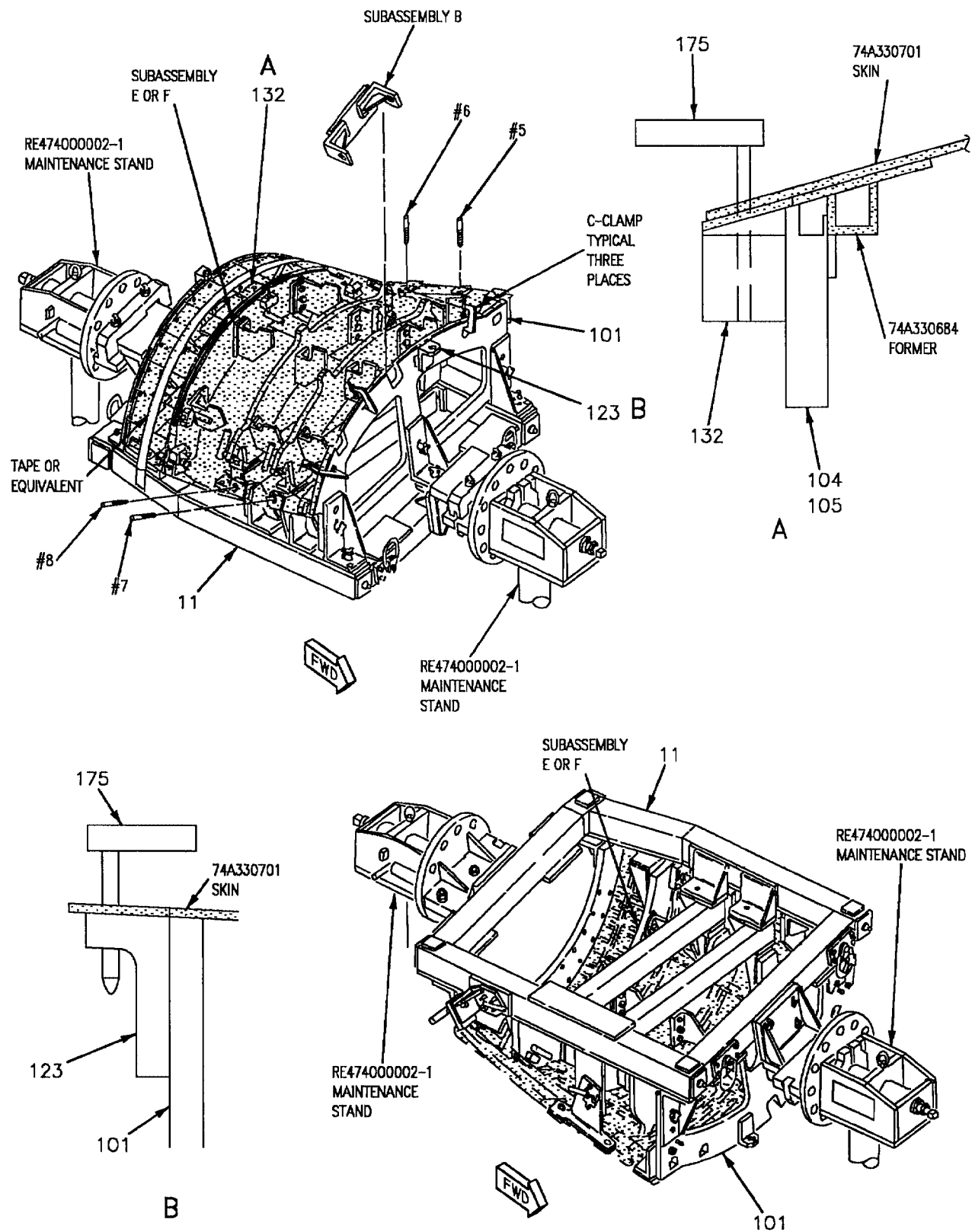


Figure 1. Maintenance Fixture RE174330616-1, -2 Details for Skin Replacement (Sheet 1)

Detail No.	Name	Function
Subassembly B	Locator	Used to set NAS76A6-008 bushings.
Subassembly E	Locator	Used to set 74A330684 former.
Subassembly F	Locator	Used to set 74A330684 former.
11	Frame assembly	Provides structural support for details.
101	Tooling plate	Used to set 74A330681 former.
104	Tooling plate	Detail of subassembly E.
105	Tooling plate	Detail of subassembly F.
123	Angle	Locates tab on forward edge of replace skin.
132	Bar	Detail of subassembly E and F, locates tab on aft edge of replacement skin.
175	L-pin	Sets details in position.

Figure 1. Maintenance Fixture RE174330616-1, -2 Details for Skin Replacement (Sheet 2)

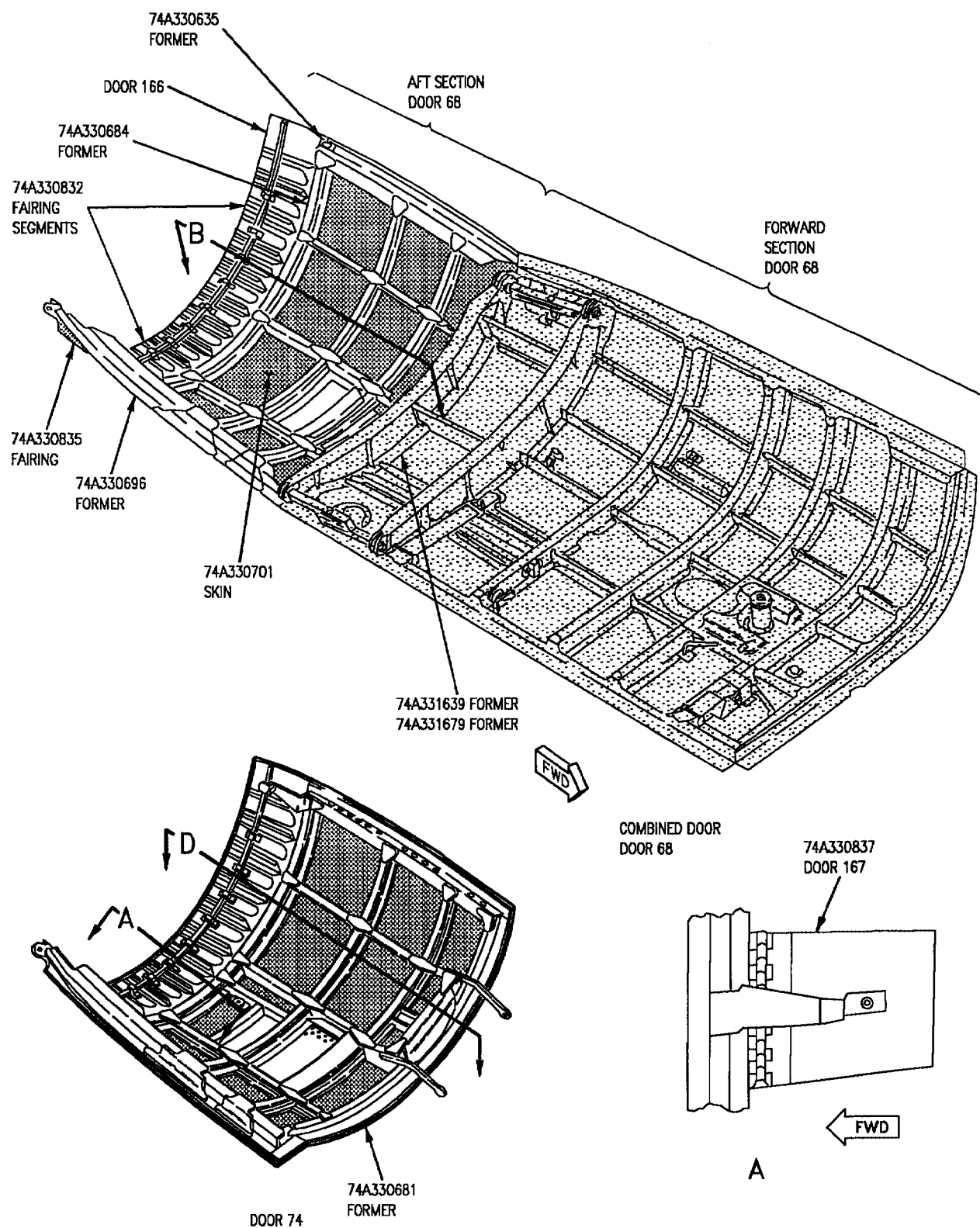


Figure 2. Skin, 74A330701, Replacement (Sheet 1)

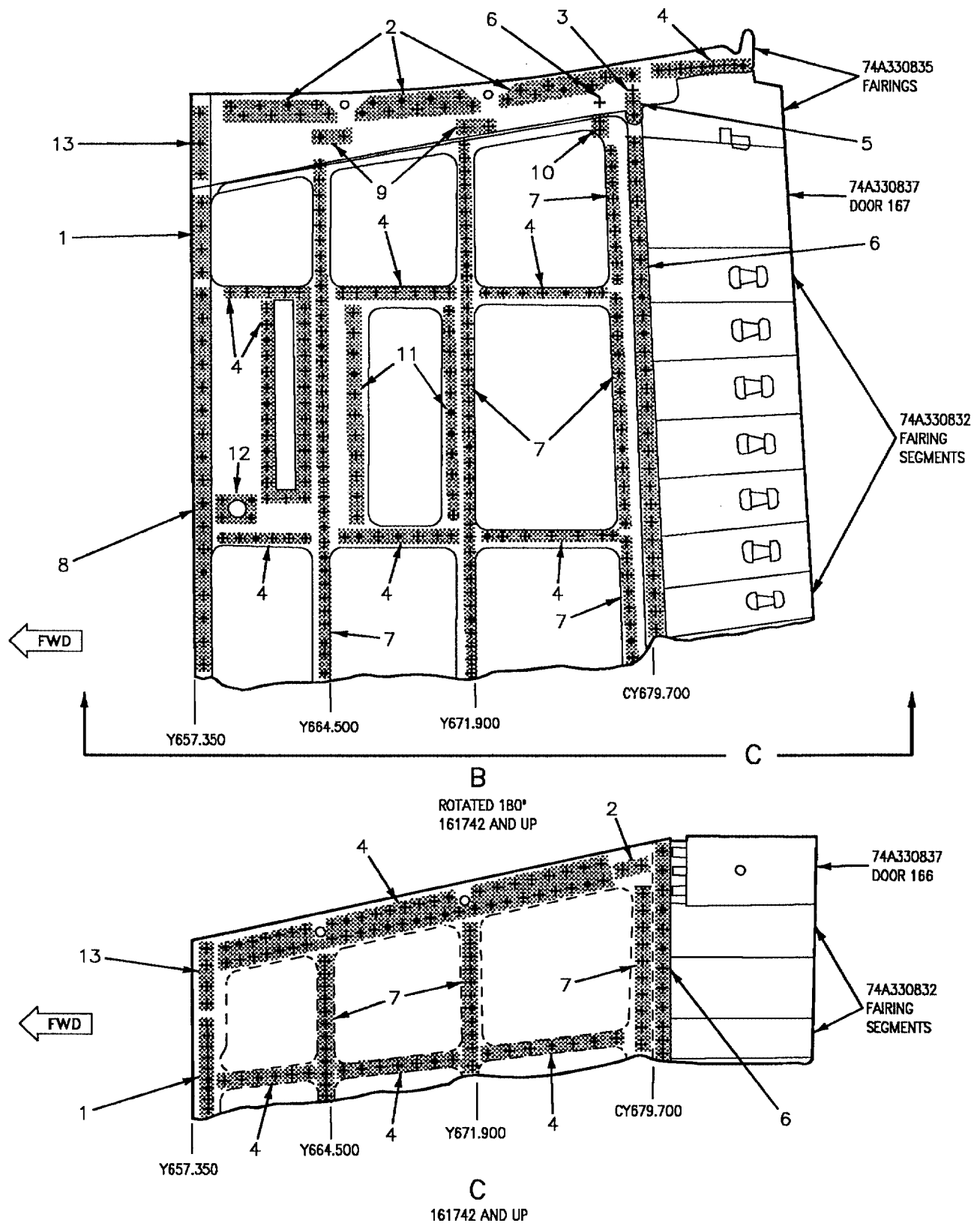


Figure 2. Skin, 74A330701, Replacement (Sheet 2)

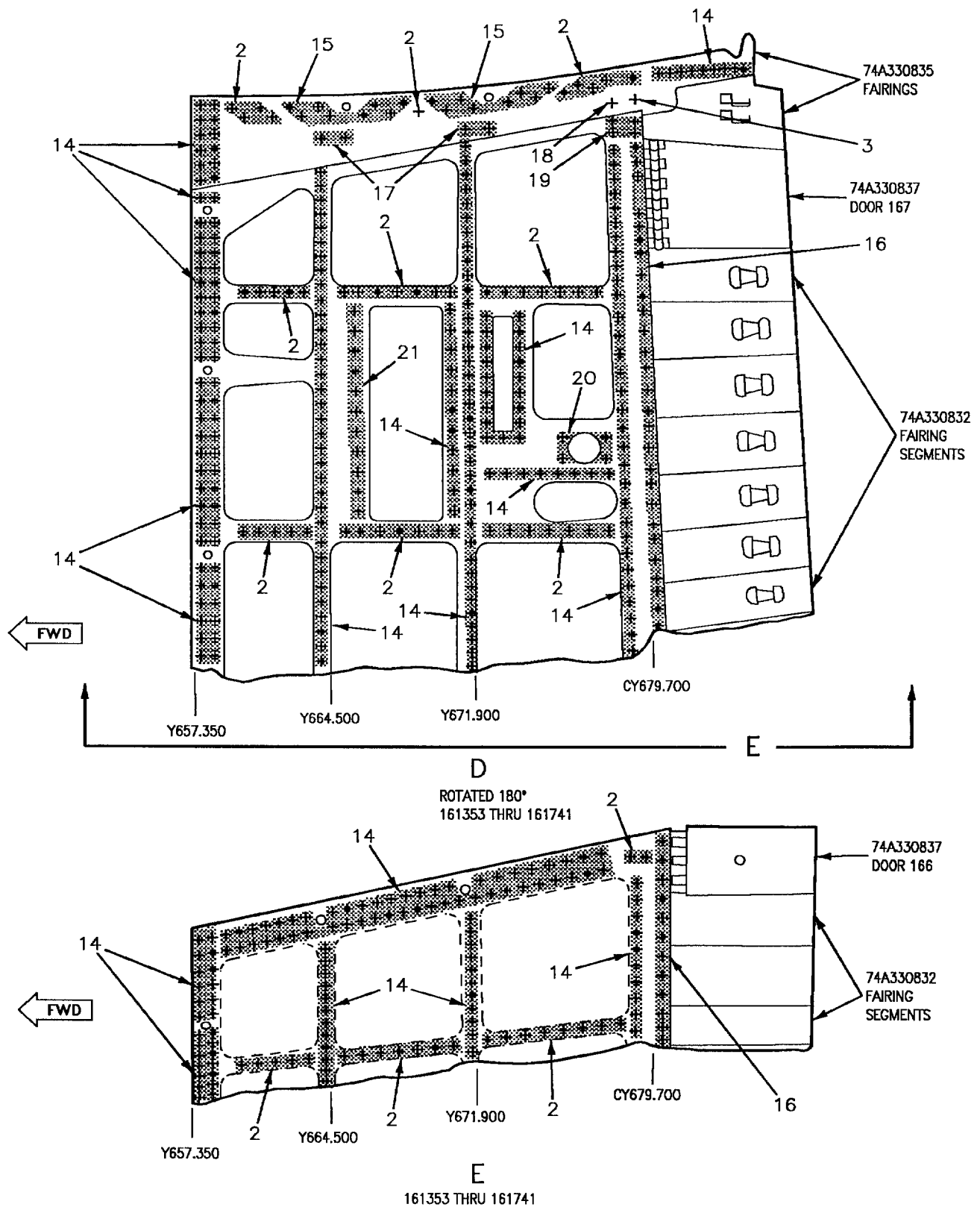


Figure 2. Skin, 74A330701, Replacement (Sheet 3)

Idx No.	Eft		Nomenclature	Part Number
1			Pin Collar	HLT311-6-3 HL570-6MC
2			Rivet 	BRFZ6E
3			Blind Fastener	PLT1058-5-4
4			Rivet 	BRFZ5E
5			Pin Collar	HLT311-5-7 SW1000-5M
6			Pin Collar	HLT311-5-4 HL570-5MC
7			Rivet 	BRFZ4E
8			Pin Collar	HLT311-6-4 HL570-6MC
9			Blind Fastener	PLT1058-6-5
10			Pin Collar	HLT311-5-7 HL570-5MC
11			Blind Fastener	NAS1399D4A2
12			Pin Collar	HLT311-5-3 HL570-5M
13			Pin Collar Spacer	HLT311-6-5 HL570-6MC 74A330711-2133
14			Rivet 	NAS1097AD4
15			Rivet 	BRFS6T
16			Pin Collar	HL611-5-5 SW1000-5M
17			Blind Fastener	PLT1058-6-3
18			Pin Collar	HL611-5-4 HL570-5MC
19			Pin Collar	HL611-5-6 HL570-5MC
20			Pin Collar	HL11V10-3 SW1000-10M

Figure 2. Skin, 74A330701, Replacement (Sheet 4)
















Idx No.	Eft		Nomenclature	Part Number
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<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.1860 +0.0025 -0.0000.</p> <p> Hole diameter is 0.1285 +0.0035 -0.0000.</p> <p> Length determined on installation.</p> <p> Hole diameter is 0.192 +0.006 -0.000.</p> <p> Hole diameter is 0.1645 +0.0025 -0.0000.</p> <p> Hole diameter is 0.1635 +0.0025 -0.0000.</p> <p> Hole diameter is 0.161 + 0.005 - 0.000.</p> <p> Hole diameter is 0.1285 +0.0055 -0.0000.</p> <p> Hole diameter is 0.199 +0.003 -0.000.</p> <p> Hole diameter is 0.1600 +0.0025 -0.0000.</p> <p> Hole diameter is 0.1590 +0.0040 - 0.0000.</p> <p> Hole diameter is 0.1635 +0.0022 -0.0000.</p> <p> Hole diameter is 0.3120 +0.0022 -0.0000.</p> <p> Hole diameter is 0.160 +0.004 -0.000.</p>				

Figure 2. Skin, 74A330701, Replacement (Sheet 5)
















21			Blind Fastener	NAS1399D5A2
LEGEND				
 Hole diameter is 0.1860 +0.0025 -0.0000.				
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 Hole diameter is 0.1600 +0.0025 -0.0000.				
 Hole diameter is 0.1590 +0.0040 - 0.0000.				
 Hole diameter is 0.1635 +0.0022 -0.0000.				
 Hole diameter is 0.3120 +0.0022 -0.0000.				
 Hole diameter is 0.160 +0.004 -0.000.				

Figure 2. Skin, 74A330701, Replacement (Sheet 5)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE
STRUCTURE REPAIR**FUEL VENT LINES COVER (DOOR 63)**

Reference Material

Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Aft Fuselage Finish System and Markings	WP036 00
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Fuselage Section - Aft, Assy of	FIG 003 00
Structure Repair, General Information	A1-F18AC-SRM-200
Gang Channel and Plate Nut Identification and Repair	WP004 05
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Water Removal	WP005 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class I Damage Repair	WP022 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class II Damage Repair	WP023 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class III Damage Repair	WP024 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class IV Damage Repair	WP025 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class V Damage Repair	WP026 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class VI Damage Repair	WP027 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class VII Damage Repair	WP028 00
Aluminum or Titanium Skin and Aluminum Honeycomb Core, Class VIII Damage Repair	WP029 00
Aircraft Weapons Systems Cleaning and Corrosion Control	NAVAIR 01-1A-509

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Repairable Damage	2
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Damage Less Than 1.5 Inches Length or Diameter to One Skin, Class IV Damage	3
Damage More Than 1.5 Inches Length or Diameter, Up to 4.0 Inches Maximum, to Both Skins, Class VII Damage	3
Damage More Than 1.5 Inches Length or Diameter, Up to 4.0 Inches Maximum, to One Skin, Class V Damage	3
Dents With Honeycomb Core Damage, Class III Damage	2
Dents Without Honeycomb Core Damage, Class II Damage	2
Ramp Skin to Skin or Honeycomb Core, Void or Unbond, Class VIII Damage	3
Voids or Unbonds Between Skin and Core, Class I Damage	2
Water in Honeycomb Core, Class X Damage	3
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Replacement	4

Record of Applicable Technical Directives

None

Support Equipment Required

None

Materials Required

None

1. **DAMAGE EVALUATION.** See figures 1 and 2.

2. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. The types of materials used are shown on figure 1. Repair zones are shown on figure 2. Allowable damage limits within repair zones are listed in tables 1 and 2. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. **NEGLIGIBLE DAMAGE.** See figure 3. Negligible damage is damage that may be allowed to exist as is. However, preventive maintenance, for temporary corrosion arrestment, should be done to scratches (NAVAIR 01-1A-509). The types and limits of damage are listed below, and in table 1. The figure and index numbers in table 1 coincide with the figure and index numbers in the material index.

a. Scratches are not allowed within one diameter from the edge of any hole.

b. Smooth dents only, effective diameter at least 20 times the depth.

(1) Depth is no greater than 0.015 inch.

(2) Diameter is no greater than 0.5 inch.

(3) No more than three dents occur in any 3.0 inch diameter circle.

(4) No more than six dents occurring in any 10 inch diameter circle.

(5) Dents occurring in a line and spaced closer than 1 1/2 dent diameter do not exceed 3.0 inches in length.

4. **REPAIRABLE DAMAGE.** See figures 2 and

4. Repairable damage is damage that can be permanently repaired with no adverse effect on structural integrity, flight characteristics, or safety of the aircraft. The types and limits of damage are listed below, and in table 2. The figure and index numbers in table 2 coincide with the figure and index numbers in the material index. Area limits apply after blending. Refinish any repaired area (A1-F18AC-SRM-500, WP036 00).

a. Scratches.

(1) Any scratches within one diameter of any hole must be blended out. Minimum blend out is one diameter from edge of any hole.

(2) Scratches to be blended out with diameter, or width, at surface at least 20 times the depth.

b. Nicks, gouges, and corrosion to be blended out with diameter, or width, at surface at least 20 times the depth.

5. **Void or Unbonds Between Skin and Core, Class I Damage.** See figure 4, section A.

a. Falls within a 4.0 inch diameter circle.

b. Damaged area is not greater than 4 percent of bonded area.

6. **Dents Without Honeycomb Core Damage, Class II Damage.** See figure 4, section B.

a. Cannot be enclosed in a 0.5 inch diameter circle, but falls within a 1.5 inch diameter circle.

b. Depth is 0.015 to 0.050 inch.

c. Core is not crushed or unbonded.

7. **Dents With Honeycomb Core Damage, Class III Damage.** See figure 4, section C.

a. Cannot be enclosed in a 0.50 inch diameter circle, but falls within a 1.5 inch diameter circle.

b. Depth is 0.015 to 0.050 inch.

c. Core is crushed or unbonded.

8. Damage Less Than 1.5 Inches Length or Diameter To One Skin, Class IV Damage. This class includes cracks, bulges, punctures, and sharp dents. See figure 4, section D.

a. Damage is to one skin.

b. Crack is no longer than 1.5 inches.

c. Bulges, punctures, or sharp dents fall within a 1.5 inch diameter circle.

d. Core may be damaged or undamaged.

9. Damage More Than 1.5 Inches Length or Diameter, Up To 4.0 Inches Maximum, To One Skin, Class V Damage. This class includes cracks, bulges, punctures, and sharp dents. See figure 4, section E.

a. Damage is to one skin.

b. Crack is 1.5 to 4.0 inches in length.

c. Bulges, punctures, and dents cannot be enclosed in a 1.5 inch diameter circle, but fall within a 4.0 inch diameter circle.

d. Core damage of any kind exists.

10. Damage Less Than 1.5 Inches Length or Diameter To Both Skins, Class VI Damage. This class includes cracks, bulges, punctures, and sharp dents. See figure 4, section F.

a. Damage is to both skins.

b. Crack is no longer than 1.5 inches.

c. Bulges, punctures, and sharp dents fall within a 1.5 inch diameter circle.

d. Core damage of any kind exists.

11. Damage More Than 1.5 Inches Length or Diameter, Up To 4.0 Inches Maximum, To Both Skins, Class VII Damage. This class includes cracks, bulges, punctures, and sharp dents. See figure 4, detail G.

a. Damage is to both skins.

b. Crack is 1.5 to 4.0 inches in length.

c. Bulges, punctures, and dents cannot be enclosed in a 1.5 inch diameter circle, but fall within a 4.0 inch diameter circle.

d. Core damage of any kind exists.

12. Ramp Skin To Skin or Honeycomb Core, Void or Unbond, Class VIII Damage. See figure 4, section H.

a. Damage is between skin and skin but does not affect core.

b. This class includes damage open or not open to the edge.

c. Voids are between ramp skin and core.

13. Water in Honeycomb Core, Class X Damage. This class is water trapped in honeycomb core.

14. REPAIRS.

15. Class I, II, III, IV, VI, VIII, and X are organizational maintenance. Class V and VII are intermediate maintenance. Refinish any repaired area (A1-F18AC-SRM-500, WP036 00). Classes I, II, III, IV, V, VI, VII, VIII, and X may be repaired per the procedures listed:

a. Repair Class I damage and install patch (A1-F18AC-SRM-250, WP022 00).

b. Repair Class II damage (A1-F18AC-SRM-250, WP023 00).

c. Repair Class III damage and install patch (A1-F18AC-SRM-250, WP024 00).

d. Repair Class IV damage and install patch (A1-F18AC-SRM-250, WP025 00).

e. Repair Class V damage and install patch (A1-F18AC-SRM-250, WP026 00).

f. Repair Class VI damage and install patch (A1-F18AC-SRM-250, WP027 00).

g. Repair Class VII damage and install patch (A1-F18AC-SRM-250, WP028 00).

h. Repair Class VIII damage and install patch (A1-F18AC-SRM-250, WP029 00).

i. Repair Class X damage (A1-F18AC-SRM-250, WP005 00).

16. REPLACEMENT.

17. See figure 5 for attaching hardware. The cover is

interchangeable. For replacement rivets, attaching plate nuts and gang channels (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-SRM-440, FIG 003 00). For form in place sealing (A1-F18AC-SRM-500, WP010 00). Apply finish system as required (A1-F18AC-SRM-500, WP036 00).

Table 1. Negligible Damage Limits



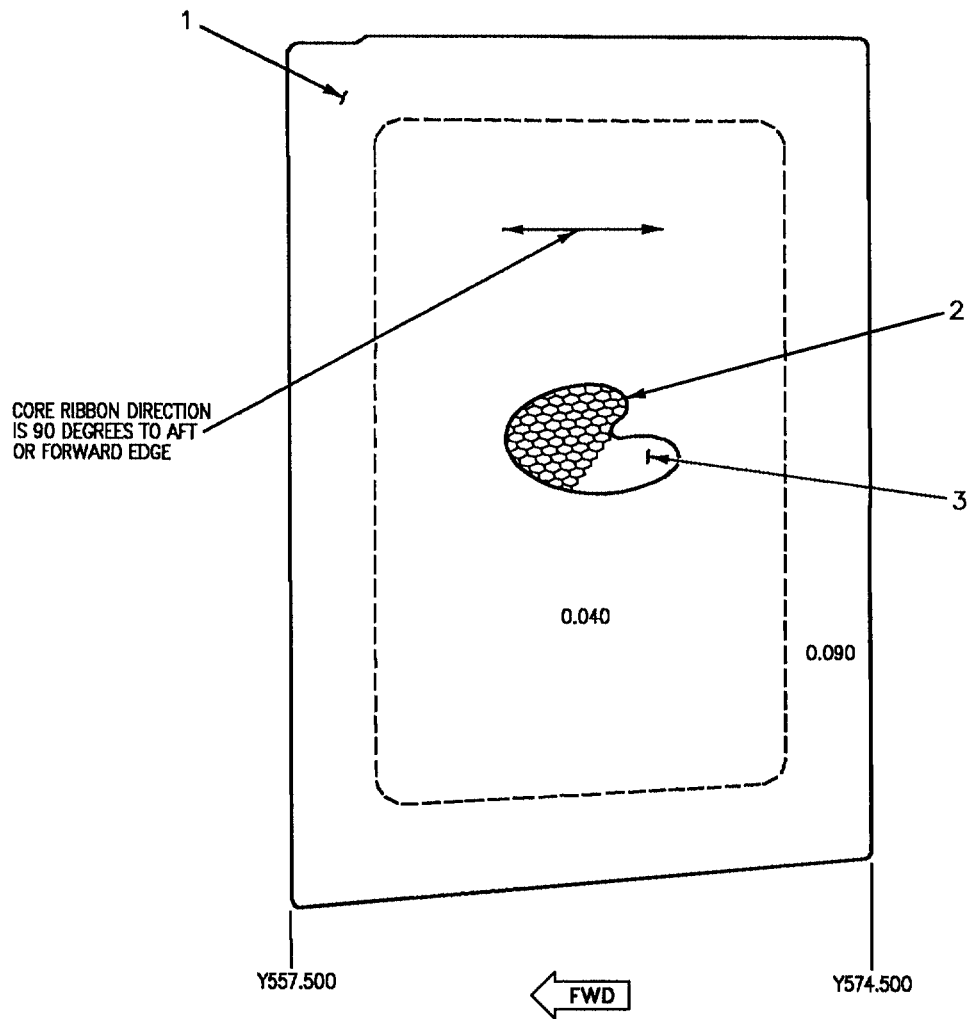
Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Dents Depth	Rivet Tilt
				Depth	Area		
Fig 1 (1)	Skin	0.040	0.002	0.0006	40%	0.020	NA
	Zone A2 Zone B2	0.090	0.0006	0.0006	40%		NA
Fig 1 (3)	Skin Zone A2	0.020	0.001	0.0006	40%	0.010	NA
Note  None allowed.							

Table 2. Repairable Damage Limits After Blending

Fig No Idx No	Nomen/ Repair Zone	Thickness	Scratch Depth	Nicks Gouges		Corrosion	
				Depth	Area	Depth	Area
Fig 1 (1)	Skin	0.040	0.008	0.008	40%	0.008	40%
	Zone A2 Zone B2	0.090	0.018	0.018	40%	0.018	40%
Fig 1 (3)	Skin Zone A2	0.020	0.004	0.004	40%	0.004	40%







Idx No.	Eft	Nomenclature and Part No.	Description	Material
1		Skin 74A330641-2001, -2002	Sheet 	7075-T76 Alclad
2		Core 74A330641-2005, -2006		5056-H39 Al Aly
3		Skin 74A330641-2003, -2004	0.020 Sheet	7075-T62 Al Aly
LEGEND  Machined to thicknesses shown.  Flexible honeycomb core, 3/8 cell, 0.0020 foil.				

Figure 1. Material Index

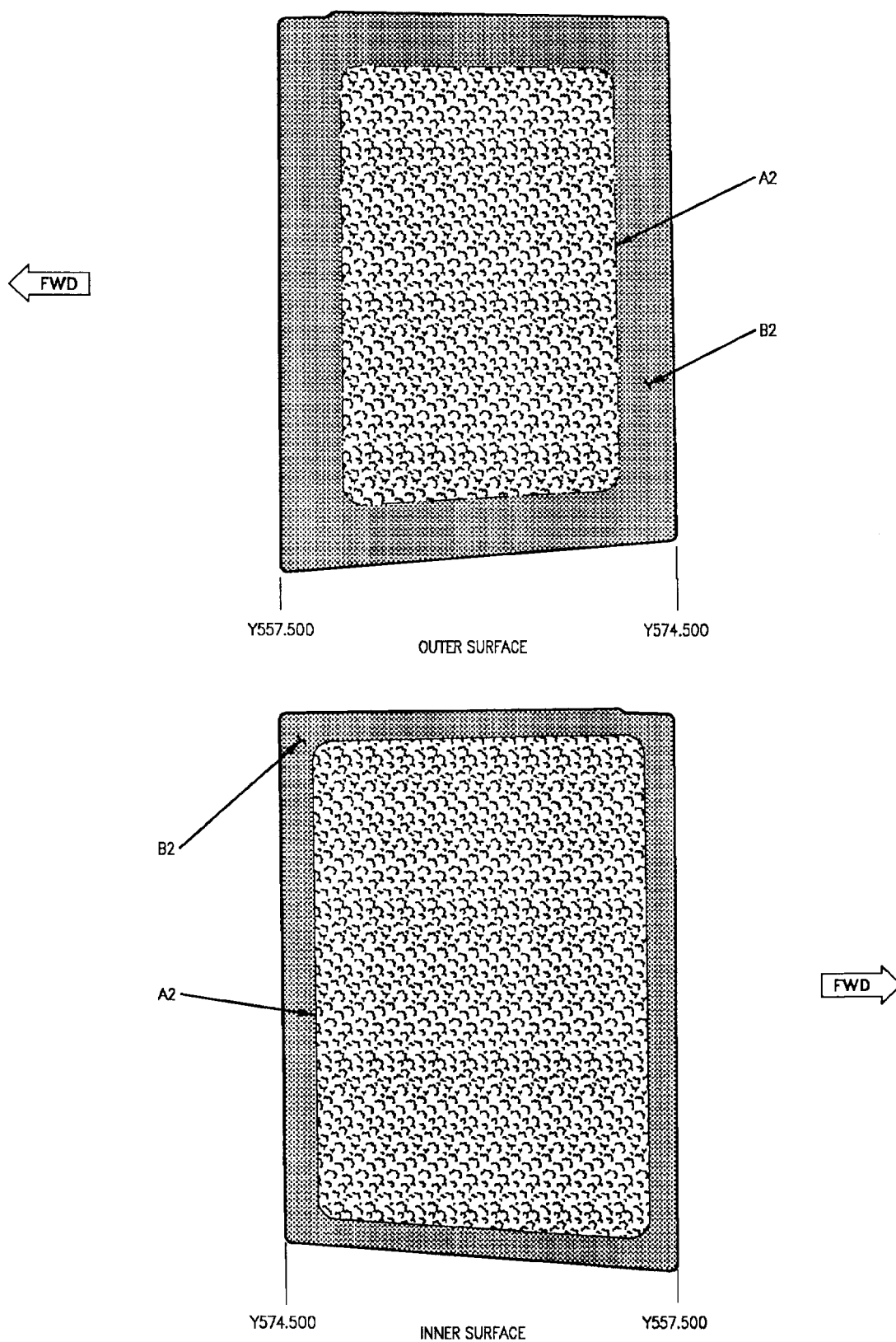


Figure 2. Repair Zones

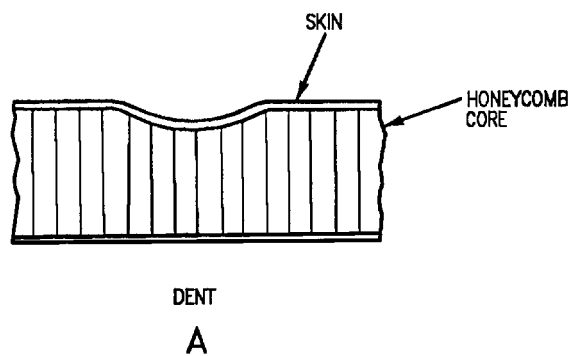
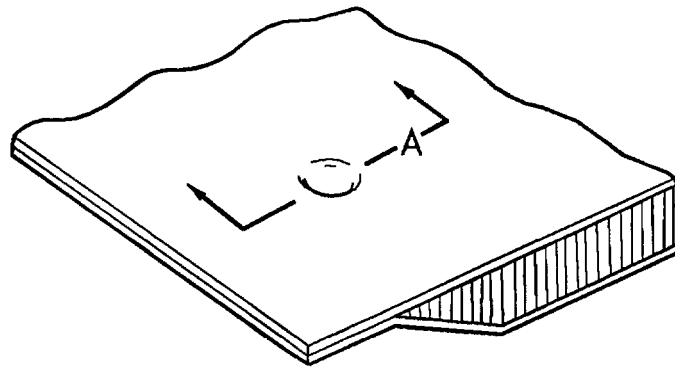


Figure 3. Negligible Damage

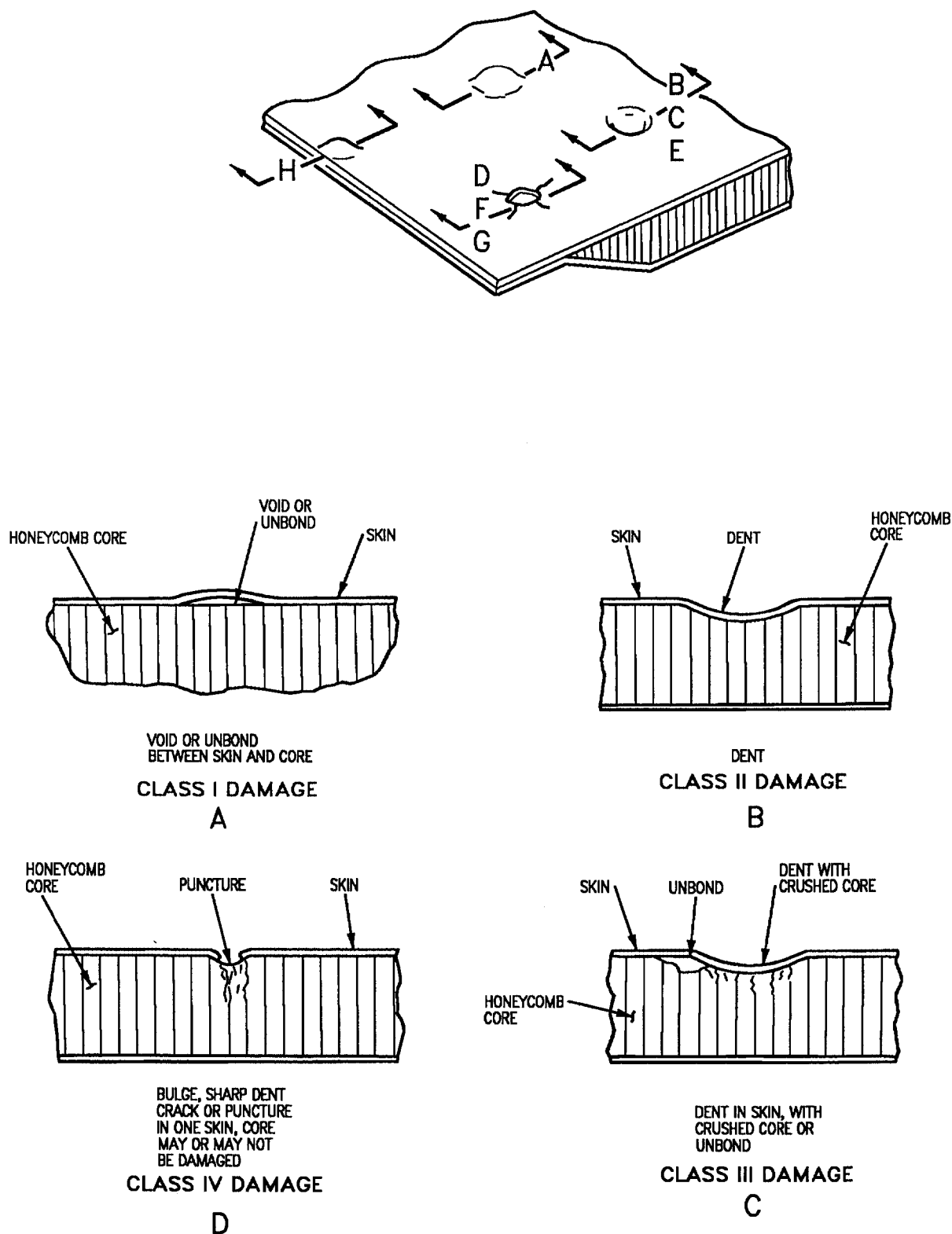
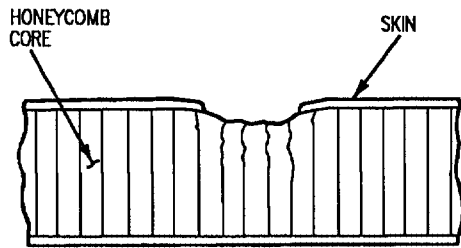


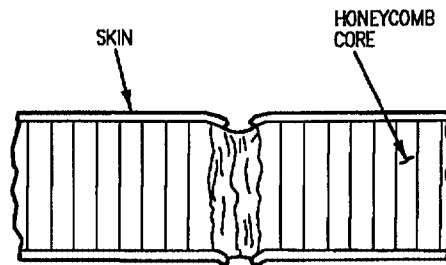
Figure 4. Repairable Damage (Sheet 1)



BULGE, DENT, CRACK
OR PUNCTURE IN ONE
SKIN ONLY, ANY LEVEL
OF CORE DAMAGE

CLASS V DAMAGE

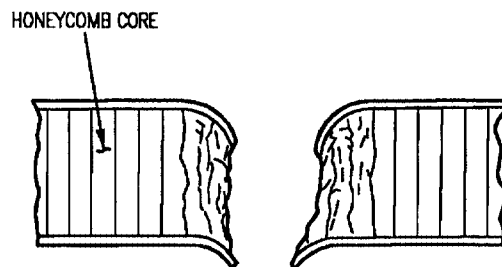
E



BOTH SKINS CRACKED
OR PUNCTURED, BULGED
SHARPLY DENTED, ANY
LEVEL OF CORE DAMAGE

CLASS VI DAMAGE

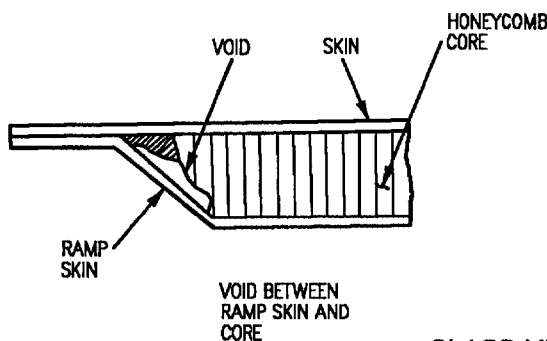
F



BOTH SKINS CRACKED
PUNCTURED, BULGED
OR DENTS MORE THAN
0.015 INCH DEEP, ANY
LEVEL OF CORE DAMAGE

CLASS VII DAMAGE

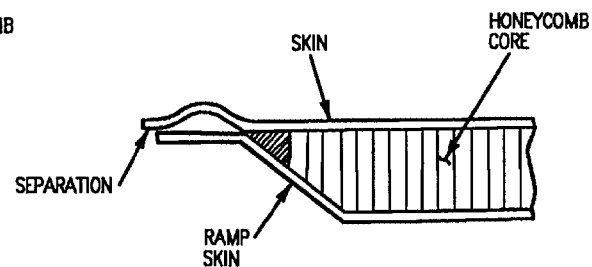
G



VOID BETWEEN
RAMP SKIN AND
CORE

CLASS VIII DAMAGE

H



UNBONDS AND VOIDS,
BETWEEN SKINS OPEN
TO THE EDGE OR NOT
OPEN TO THE EDGE

Figure 4. Repairable Damage (Sheet 2)

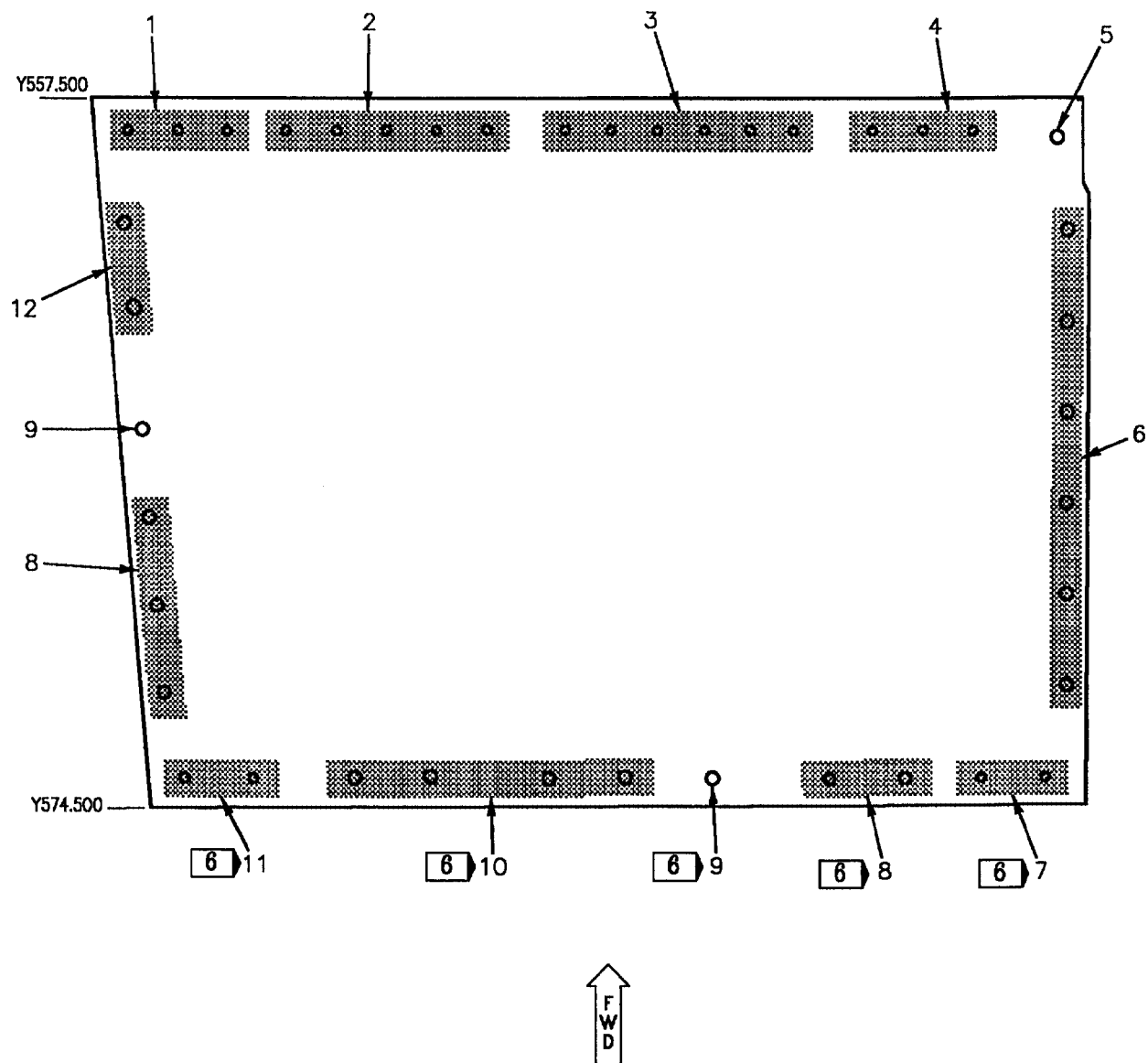


Figure 5. Replacement (Sheet 1)






















Idx No.	Eft		Nomenclature	Part Number
1			Gang Channel Spacer	G14421-1-4L-10 74A330711-2039,-2040
2			Gang Channel	 74A330640-2001
3			Gang Channel	G14421-6-4L-9
4			Gang Channel	G14421-6-4-10
5			Plate Nut	F49069-4-2
6			Plate Nut	F49069-4-6
7			Gang Channel	 74A330640-2003
8			Plate Nut Shim	F49069-4-4 NAS463XD416M
9			Plate Nut	F49069-4-4
10			Plate Nut Plate Shim	F49069-4-2 74A331309-2001 NAS463XD416M
11			Gang Channel	G14421-2-4L-14
12			Plate Nut Shim	F49069-4-2 NAS463XD416M
<p style="text-align: center;">LEGEND</p> <p> Hole diameter is 0.250 +0.006 -0.000.</p> <p> Material is 0.125 sheet, 7075-T76 aluminum alloy under inboard hole.</p> <p> Stock is G14421-6-4-10.</p> <p> Stock is G14421-4-4L-13.</p> <p> Material is 0.75 bar, 7075-T73511 aluminum alloy. Stock tapers from center dimension of 0.220 to 0.090 in both directions.</p> <p> Cold work holes, type I.</p> <p> Under two inboard holes.</p>				

Figure 5. Replacement (Sheet 2)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**STRUCTURE REPAIR****STABILATOR ACTUATOR ACCESS COVER (DOOR 71)**

Reference Material

Structure Repair, General Information	A1-F18AC-SRM-200
Gang Channel and Plate Nut Identification and Repair	WP004 05
Drilling and Machining Composites	WP004 08
Adhesive, Cement, and Sealant, Preparation and Application	WP011 00
Nondestructive Inspection	A1-F18AC-SRM-300
Ultrasonic Through Transmission Contact Testing, Standardization, and Inspection Procedures	
For Composite Laminate Skins Bonded to Honeycomb Core	WP008 01
Pulse Echo, Longitudinal Wave Contact, With Delay Line, For Composite Laminate Material	
Bonded to Honeycomb Core	WP008 04
Structure Illustrated Parts Breakdown, Aft Fuselage	A1-F18AC-SRM-440
Fuselage Section - Aft Structure, Assy of	FIG005 00
Aircraft Corrosion Control	A1-F18AC-SRM-500
Form In Place Sealing	WP010 00
Priming Procedures	WP011 00
Aft Fuselage Finish System and Markings	WP036 00
Structure Repair, Typical Repair	A1-F18AC-SRM-250
Curing of Repairs	WP004 00
Water Removal	WP005 00
Graphite Epoxy Skin and Aluminum Honeycomb Core, Class I Damage Repair	WP012 00
Graphite Epoxy Skin and Aluminum Honeycomb Core, Class III Damage Repair	WP014 00
Graphite Epoxy Skin and Aluminum Honeycomb Core, Class IV Damage Repair	WP015 00
Graphite Epoxy Skin and Aluminum Honeycomb Core, Class V Damage Repair	WP016 00
Graphite Epoxy Skin and Aluminum Honeycomb Core, Class VI Damage Repair	WP017 00
Graphite Epoxy Skin and Aluminum Honeycomb Core, Class VII Damage Repair	WP018 00

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Class V Damage	3
Skin Damage With Penetration and Dents with Honeycomb Core Damage,	
Class VII Damage	3
Skin Damage Without Penetration, Class VI Damage	3
Skin Delaminations or Unbonds Open to Edge, Class IV Damage	3
Skin Delaminations, Unbonds, or Skin to Core Unbonds Not Open to Edge, Class III Damage ..	2
Skin Surface Damage and Dents Without Honeycomb Core Damage, Class I Damage	2
Water In Honeycomb Core, Class VIII Damage	3
Repairs	3
Patch Selection	6
Fastener Hole Repair for Missing Sleeve	4
Replacement	5
Fastener Attaching Hardware	5

Record of Applicable Technical Directives

None

1. DAMAGE EVALUATION. See figure 1.

2. Damage is classified as negligible and repairable. Locating and determining size of damage by visual method is organizational maintenance. Locating and determining size of damage by NDI method is intermediate maintenance. Damage not listed or exceeding the limits listed requires a depot engineering disposition.

3. NEGLIGIBLE DAMAGE. See figure 2. Negligible damage may be allowed to exist as is. Type and limits are as listed:

a. Delaminations between skin plies. See section A. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 04).

(1) Delaminations do not extend to edge of skin.

(2) Delaminations are at least 0.016 inch below outer skin surface.

(3) Diameter is 0.5 inch or less.

(4) Distance between delaminations is at least four times the diameter of the largest delamination. Measure distance between delaminations edge to edge.

(5) No more than three delaminations are in a 12 inch diameter circle.

b. Unbonds between skins and core. See section B. Determine size and location of unbonds (A1-F18AC-SRM-300, WP008 01).

(1) Unbonds do not extend to edge of skin.

(2) Diameter is 0.75 inch or less.

(3) Unbonds are separated by at least 4.0 inches, measured edge to edge.

(4) No more than three unbonds are in a 12 inch diameter circle.

c. Dents. See section C.

(1) Diameter is no greater than 3.0 inches.

(2) Depth is no greater than 0.015 inch.

4. **REPAIRABLE DAMAGE.** Repairable damage is damage that can be permanently repaired with no adverse affects on structural integrity, flight characteristics, or safety of the aircraft.

5. **Skin Surface Damage and Dents Without Honeycomb Core Damage, Class I Damage.** See figure 3. This class of damage does not require immediate repair but shall be repaired as soon as practical. The damage shall be monitored to make sure limits are not exceeded. Class I damage is skin damage which does not exceed the limits listed:

a. Cuts, scratches, pits, erosion, or abrasions.

(1) Depth is no greater than 0.005 inch.

(2) No longer than 5.0 inches.

b. Dents.

(1) Depth is no greater than 0.05 inch.

(2) Distance between dents is at least two times the diameter of the largest dent. Measure distance between dents edge to edge.

(3) Skin delaminations and/or skin to core unbonds do not exceed negligible damage limits.

(4) Graphite fiber damage is no greater than 0.005 inch deep.

(5) Diameter is no greater than 3.0 inches.

(6) No crushed core.

6. **Skin Delaminations, Unbonds, or Skin to Core Unbonds Not Open to Edge, Class III Damage.** See figure 3, section B and C. This is damage which does not exceed the limits listed:

a. Unbonds between skin and core. Determine size and location of unbonds (A1-F18AC-SRM-300, WP008 01).

(1) No more than 3.0 inches in diameter.

(2) Distance between unbonds is at least four times the diameter of the largest unbond.

(3) Not open to the edge of skin.

b. Delaminations between skin plies. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 04).

(1) Not in core area.

(2) Not open to edge of skin.

(3) Not more than 1.0 inch wide.

(4) Not more than 4.0 inches long.

(5) Distance between delaminations is at least four times the diameter of the largest delamination.

7. Skin Delaminations or Unbonds Open to Edge, Class IV Damage. See figure 3, section D. This is skin damage which does not exceed the limits listed:

a. Delamination between skin plies. Determine size and location of delaminations (A1-F18AC-SRM-300, WP008 04).

(1) Less than 2.0 square inches.

(2) No longer than 4.0 inches.

(3) Distance between delaminations is at least four times the diameter of the largest delamination.

b. Unbonds between skins. Determine size and location of unbonds (A1-F18AC-SRM-300, WP008 01).

(1) No wider than 0.75 inch.

(2) No longer than 4.0 inches.

(3) Distance between unbonds is at least four times the diameter of the largest unbond.

8. Damaged Fastener Holes, Fiber Damage Around Fastener Holes and Surface Rips, Class V Damage. See figure 3, sections E and F. This damage is loose, broken or missing graphite fibers and/or skin abrasion around fastener holes and/or countersinks and damaged fastener holes without sleeves. Limits are:

a. No deeper than 0.010 inch.

b. No wider than 0.25 inch.

c. No longer than 0.50 inch.

d. Fastener holes no greater than 0.3906 inch diameter.

9. Skin Damage Without Penetration, Class VI Damage. See figure 3, section G. This is skin damage which does not exceed the limits listed:

a. Diameter is less than 5.25 inches.

b. Distance between damages is at least four times the diameter of the largest damage.

c. Patch does not overlap fasteners, the bolt retainer bracket or extend past the inner surface core ramp.

10. Skin Damage With Penetration and Dents with Honeycomb Core Damage, Class VII Damage. See figure 3, section H. This damage includes full penetration of one or both skins, damage to the core, unbond of skin to core open to the hole, skin ply delaminations open to the hole and dents to the skin with core damage. Determine size and location of crushed core, and skin to core unbonds (A1-F18AC-SRM-300, WP008 01), delaminations (A1-F18AC-SRM-300, WP008 04). This damage must not exceed the limits listed:

a. Diameter is less than 5.25 inches.

b. Distance between damages is at least four times the diameter of the largest damage.

c. Patch does not overlap fasteners, the bolt retainer bracket or extend past the inner surface core ramp.

d. Dents.

(1) Diameter greater than 3.0 inches.

(2) Depth greater than 0.05 inches.

(3) With crushed core.

11. Water in Honeycomb Core, Class VIII Damage. This damage is water trapped in the honeycomb core.

12. REPAIRS.

13. Classes I, III, IV, V, VI, and VIII are organizational maintenance. Class VII less than 1.5 inches in diameter is organizational maintenance; over 1.5 inches in diameter is intermediate maintenance. Repair damages per the procedures referenced.

- a. Repair Class I damage (A1-F18AC-SRM-250, WP012 00).
- b. Select patch for Class III damage per Table 1. Repair Class III damage (A1-F18AC-SRM-250, WP014 00).
- c. Repair Class IV damage (A1-F18AC-SRM-250, WP015 00).
- d. Repair Class V damage. Damaged fastener holes, without sleeves, require one of two repair methods and fastener hole diameter per substeps. (A1-F18AC-SRM-250, WP016 00).

(1) On 161353 THRU 161705, do repair method two, drill holes to 0.250 +0.006 -0.000 diameter and countersink.

(2) On 161706 THRU 161709, do repair method one as preferred repair, drill holes to 0.250 +0.006 -0.000 diameter and countersink. Do repair method two as alternate repair, hole diameter and countersink are the same as in preferred repair.

e. Select patch for Class VI damage per Table 2. Repair Class VI damage (A1-F18AC-SRM-250, WP017 00).

f. Select patch for Class VII damage per Table 2. Repair Class VII damage (A1-F18AC-SRM-250, WP018 00).

g. Repair Class VIII damage (A1-F18AC-SRM-250, WP005 00).

NOTE

Titanium patches conform more easily to surfaces with relatively sharp curvature. Titanium patches shall be used whenever the required patch extends into the area of sharp curvature, inner or outer surface. See figure 4.

14. FASTENER HOLE REPAIR FOR MISSING SLEEVE. This repair is for a fastener hole with a missing sleeve, with hole in skin of 0.280 diameter or less on 161710 THRU 161761, and 0.274 diameter or less on 161924 THRU 163145, 163171 AND UP.

Support Equipment Required

None

Materials Required

Nomenclature	Specification or Part Number
Brush, Varnish	H-B-695 Type 1, Grade A, Size 1/4 inch
Cheesecloth	CCC-C-440, Type 1, Class 1
Dry Cleaning Solvent	P-D-680
Primer, Epoxy	MIL-P-23377, Type 2, Class 1
Sealing Compound	MIL-S-83430, Class B-4
Sleeve (AR)	JK5902C08N3B

a. Drill hole in skin per substep: Drilling and Machining composites (A1-F18AC-SRM-200, WP004 08).

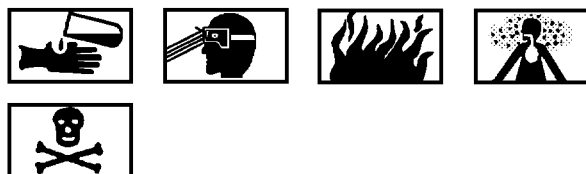
(1) On 161710 THRU 161761 hole diameter is 0.277 +0.003 -0.000.

(2) On 161924 THRU 163145, 163171 AND UP, hole diameter is 0.271 +0.003 -0.000.

b. Countersink outer mold line of hole 100° to a depth of 0.0766.

c. Countersink inner mold line of hole 100° to a depth of 0.330.

d. Insert flared end of JK5902C08N3B sleeve into outer mold line countersink non flared end of sleeve shall be flush to 0.063 past inner mold line surface.



Primer

10

e. Remove sleeve and apply two coats of primer to exterior surface of sleeve with brush. Priming procedures (A1-F18AC-SRM-500, WP011 00).

f. Allow primer to thoroughly dry.



Sealing Compound

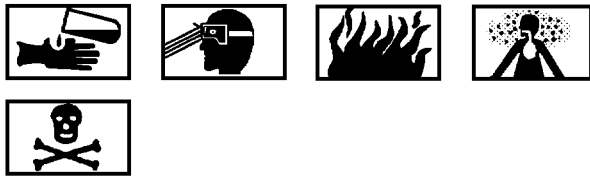
2

g. Apply MIL-S-83430 sealing compound to exterior surface of sleeve, insert sleeve into hole. Sealant preparation (A1-F18AC-SRM-200, WP011 00).



Make sure when flaring sleeve to apply limited pressure, avoiding damage to the skin face.

h. Flare inner mold line end of sleeve by lightly applying squeeze pressure.



Dry Cleaning Solvent

11



To avoid contamination of solvent, always pour solvent onto clean cheesecloth. Never dip cheesecloth into solvent.

i. Wipe excess sealing compound from sleeve and surrounding area with clean cheesecloth dampened with dry cleaning solvent.

j. Inspect sleeve for cracks and splits, inner mold line flare shall be flush to 0.010 below mold line.

k. Cure sealing compound (A1-F18AC-SRM-250, WP004 00).



After cure, inspect sleeve to make sure sleeve is tight and will not rotate when applicable fastener is installed. If sleeve rotates, repeat steps a through k.

l. Refinish repaired area (A1-F18AC-SRM-500, WP036 00).

15. **PATCH SELECTION.** The type of patch to be used depends on the class of damage, repair area, type of adhesive and damage size. Select applicable patch number for Class III damage using table 1, Class VI and VII damage using table 2, and limits listed:

a. The required patch must not lap over any abrupt surface break or sharp curvature that may prevent the patch from easily conforming to skin surface.

b. The patch may not interfere with structure or cover any countersink fasteners.



c. When selecting patch for Class III damage, patch must overlap injection holes by at least 0.5 inch.

d. Patches exceeding limits a, b, or c require an engineering disposition.

16. REPLACEMENT.


17. **FASTENER ATTACHING HARDWARE.** See figure 5 for plate nuts and shims. For replacement rivets attaching plate nuts (A1-F18AC-SRM-200, WP004 05). For fasteners (A1-F18AC-SRM-440, FIG005 00). On 161956 AND UP, before applying form in place sealant, replace 9M882 spacers with 4M116-04005, -04006 or -04007 washers. Determine washer thickness at each fastener hole. Washers are bonded to structure with MIL-S-83430 sealing compound. Washers will not be removed on installation of door. For form in place sealing (A1-F18AC-SRM-500, WP010 00).

Table 1. Patch Selection for Class III Damage

Injection Hole Spacing	Graphite Epoxy Single Patch		Titanium Patch Single Plies	
	 No.	Dia.	 No.	Dia.
0.50 to 1.25	-1003	2.25	-	-
1.25 to 1.75	-1001 or -1005	2.75	-2001	2.75
1.75 to 2.50	-	-	-2003	3.50
2.50 to 3.00	-1007	4.00	-2005	4.00

NOTES

1. Bond patch using FM300 adhesive.

 Dash number of 74K000002 kit.






 Dash number of 74K000003 kit.


Table 2. Patch Selection for Class VI and VII Damage

Damage Size (Dia.)	Graphite Epoxy Single Patch		Titanium Patch Single Patch		Titanium Patch Single Patch	
	 No.	Dia.	 No.	Dia.	 No.	Dia.
0.0 to 0.25	-1001	2.75	-2001	2.75	-	-
0.25 to 1.50	-1007	4.00	-	-	-2003 -2005	3.25 4.00
1.50 to 2.75	-1009	5.25	-	-	-2007 -2009	4.50 5.25
2.75 to 4.00	-1011	6.50	-	-	-2011 -2013	5.75 6.50
4.00 to 5.25	-1013	7.75	-	-	-2015 -2017	7.00 7.75

NOTES

1. Bond patch using FM300 adhesive

 Dash number of 74K000002 kit.

 Dash number of 74K000003 kit.

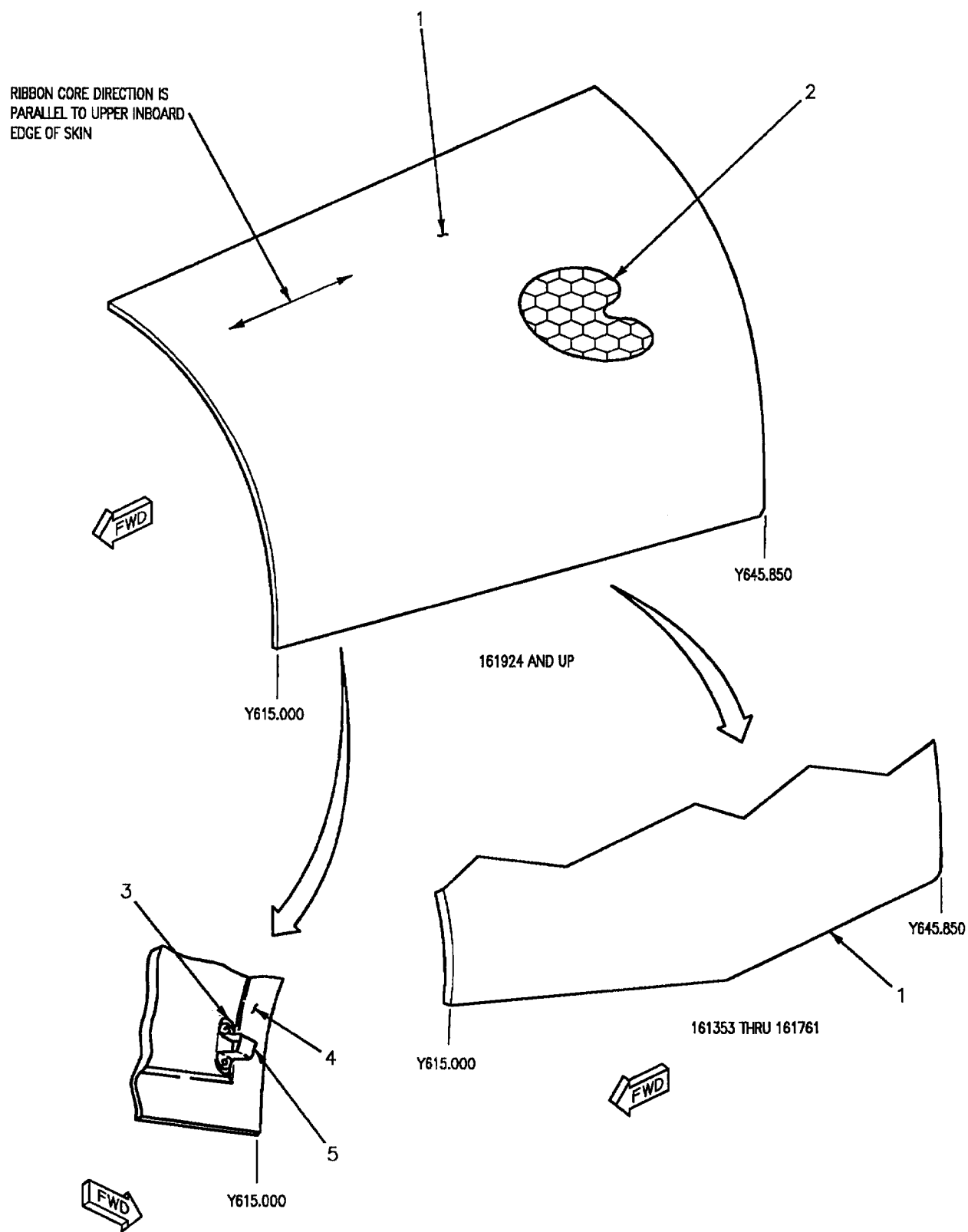


Figure 1. Material Index (Sheet 1)

Idx No.	Eft	Nomenclature and Part No.	Description	Material
1	<div>6</div> <div>7</div> <div>8</div>	Skin 74A330653-1001, -1002 74A330653-1005, -1006 74A330653-1003, -1004	<div>1</div> Laminate	Graphite/Epoxy
2	<div>9</div> <div>8</div>	Core 74A330654-2001, -2002 74A330654-2003, -2004	<div>2</div>	5056-H39 Al Aly
3		Doubler 74A330651-2023	0.012 Sheet	6Al-4V Ti Anl
4	<div>4</div> <div>5</div> <div>10</div> <div>11</div>	Skin 74A330651-1011, -1012 74A330651-1013, -1014 74A330651-1009, -1010 74A330651-1015, -1016	<div>3</div> Laminate	Graphite/Epoxy
5		Bracket 74A330652-2007	0.050 Sheet	7075-T62 Al Aly
LEGEND <div>1</div> Graphite/epoxy laminate, 0.042 thick over core. Bonded with inner skin at edges to form 0.167 thickness. <div>2</div> Flexible honeycomb core, 1/4 cell 0.0014 foil. <div>3</div> Graphite/epoxy laminate, 0.047 thick over core. Bonded with outer skin at edges to form 0.167 thickness. <div>4</div> 161353 THRU 161709. <div>5</div> 161710 THRU 161761. <div>6</div> 161353 THRU 161719. <div>7</div> 161720 THRU 161761. <div>8</div> 161924 AND UP. <div>9</div> 161353 THRU 161761. <div>10</div> 161924 THRU 163145, 163171 AND UP. <div>11</div> 163146 THRU 163170.				

Figure 1. Material Index (Sheet 2)

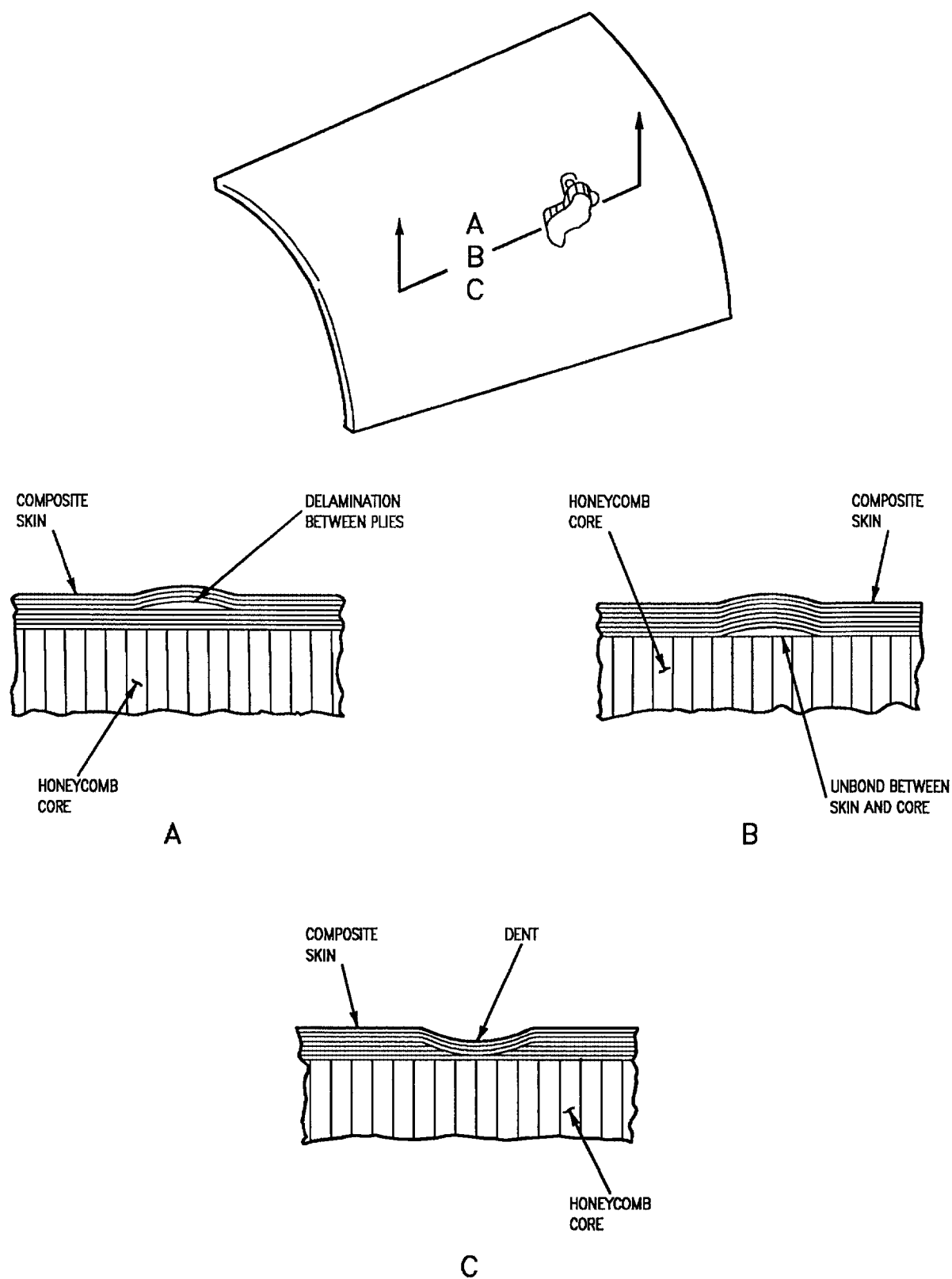


Figure 2. Negligible Damage

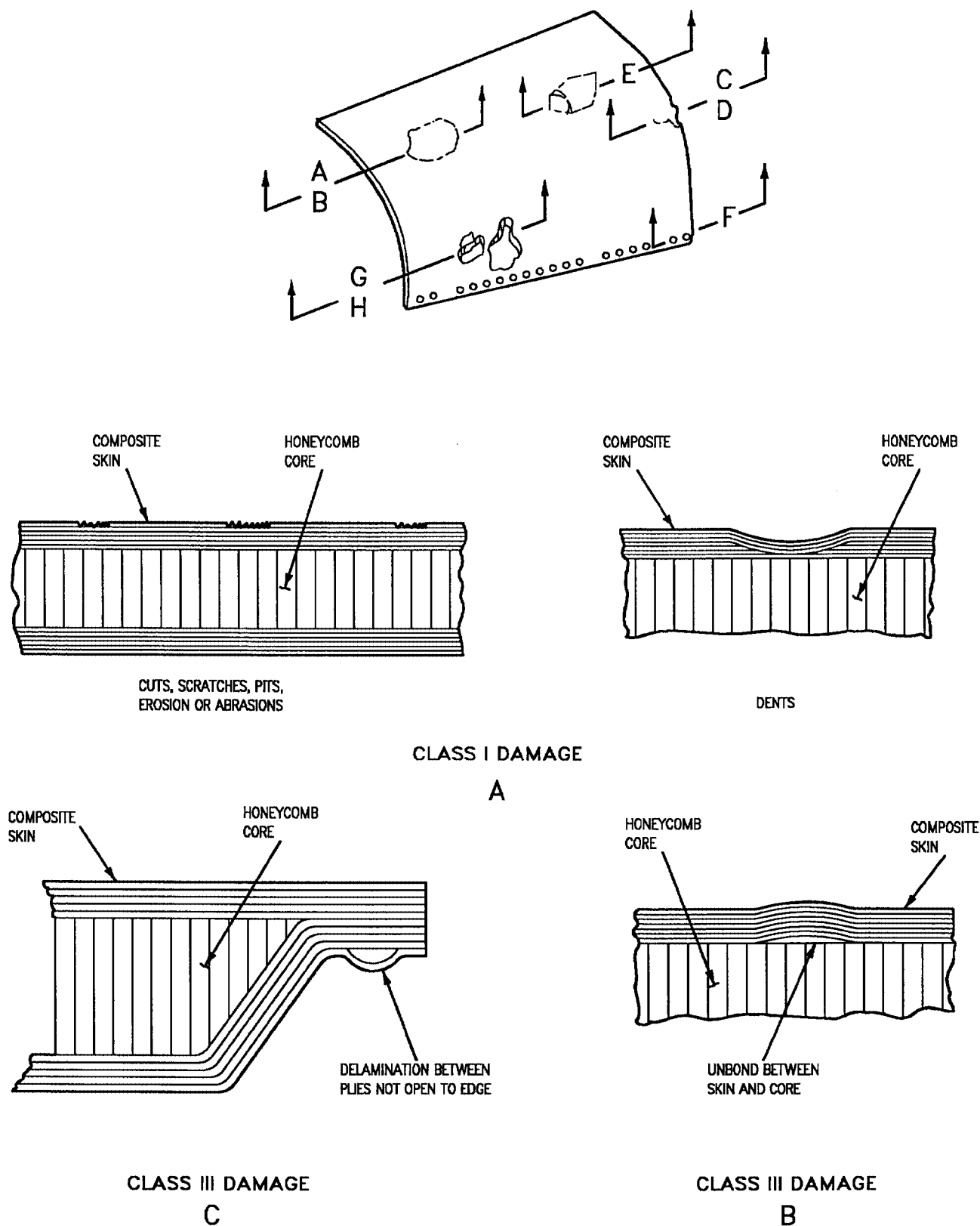
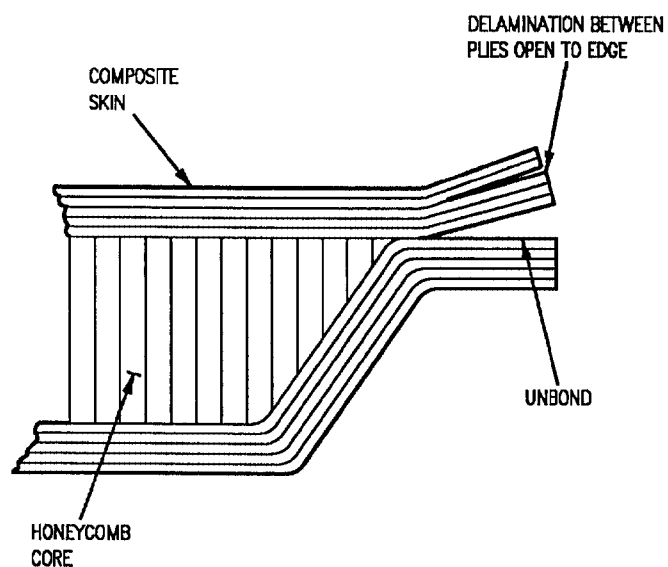
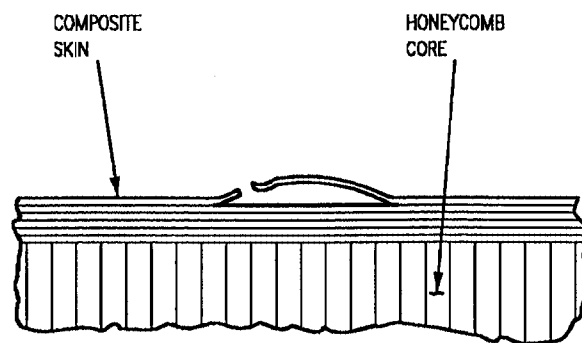


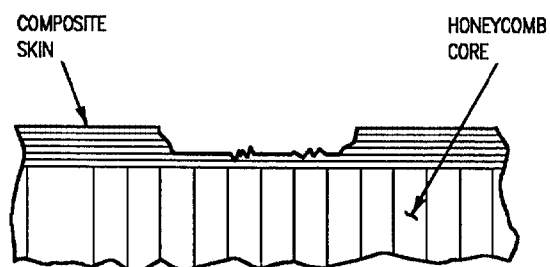
Figure 3. Repairable Damage (Sheet 1)



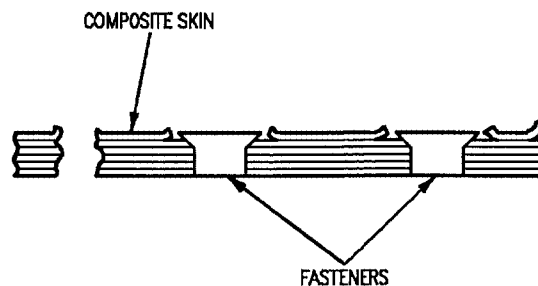
CLASS IV DAMAGE
D



SURFACE PLY RIPS
CLASS V DAMAGE
E

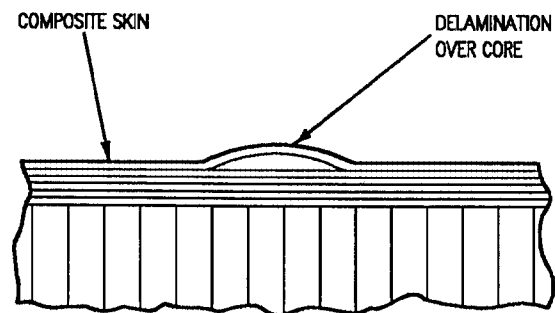


CUTS, SCRATCHES, CRACKS,
OR SKIN EROSIONS



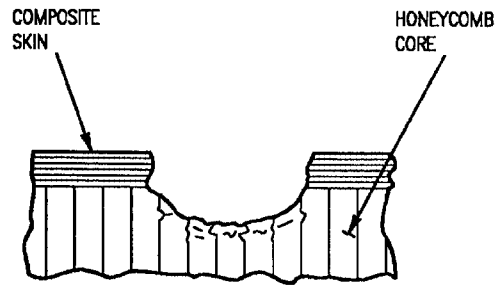
SURFACE PLY DAMAGE AROUND FASTENER HOLES
AND OR COUNTERSINKS SURFACE PLY RIPS AT
EDGE OF PART AND FASTENER HOLE DAMAGE

CLASS V DAMAGE
F

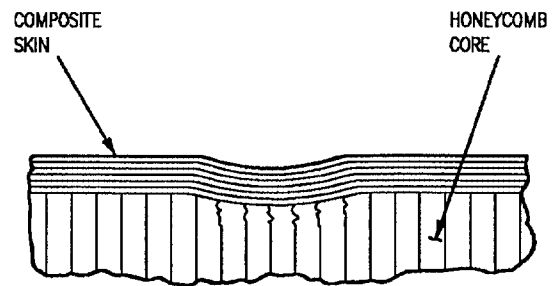


CLASS VI DAMAGE
G

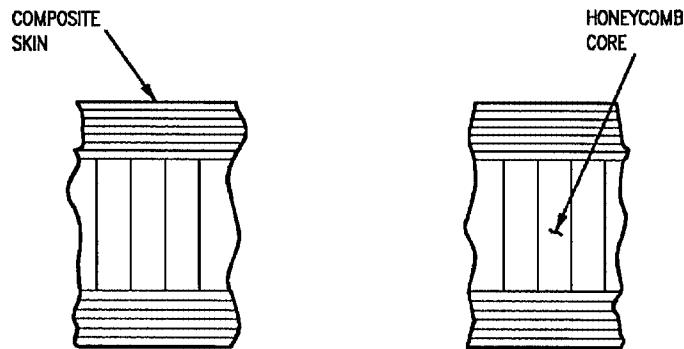
Figure 3. Repairable Damage (Sheet 2)



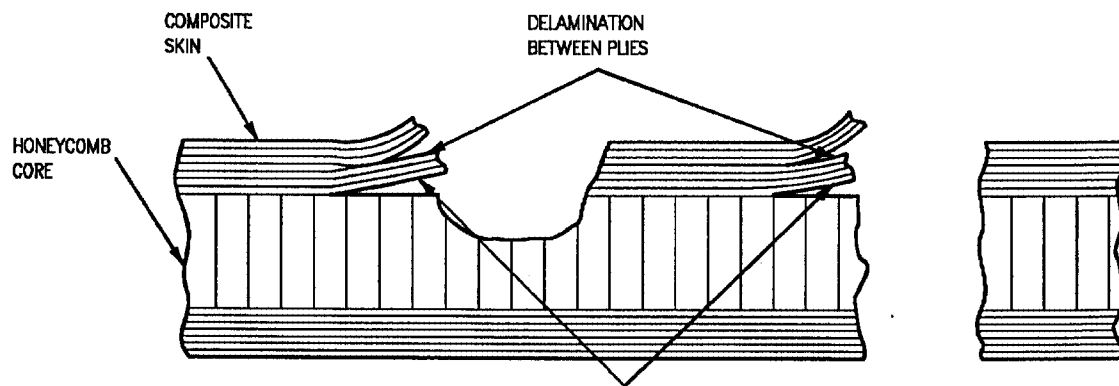
SKIN DAMAGE FULL PENETRATION
WITH HONEYCOMB CORE DAMAGE



DENTS



SKIN DAMAGE, FULL PENETRATION
OF BOTH SKINS WITH HONEYCOMB
CORE DAMAGE



SKIN DAMAGE, FULL PENETRATION
OF ONE OR BOTH SKINS, DELAMINATION
OF PLYS OPEN TO DAMAGE, PLYS TO
CORE UNBOND OPEN TO DAMAGE

H

CLASS VII DAMAGE

Figure 3. Repairable Damage (Sheet 3)

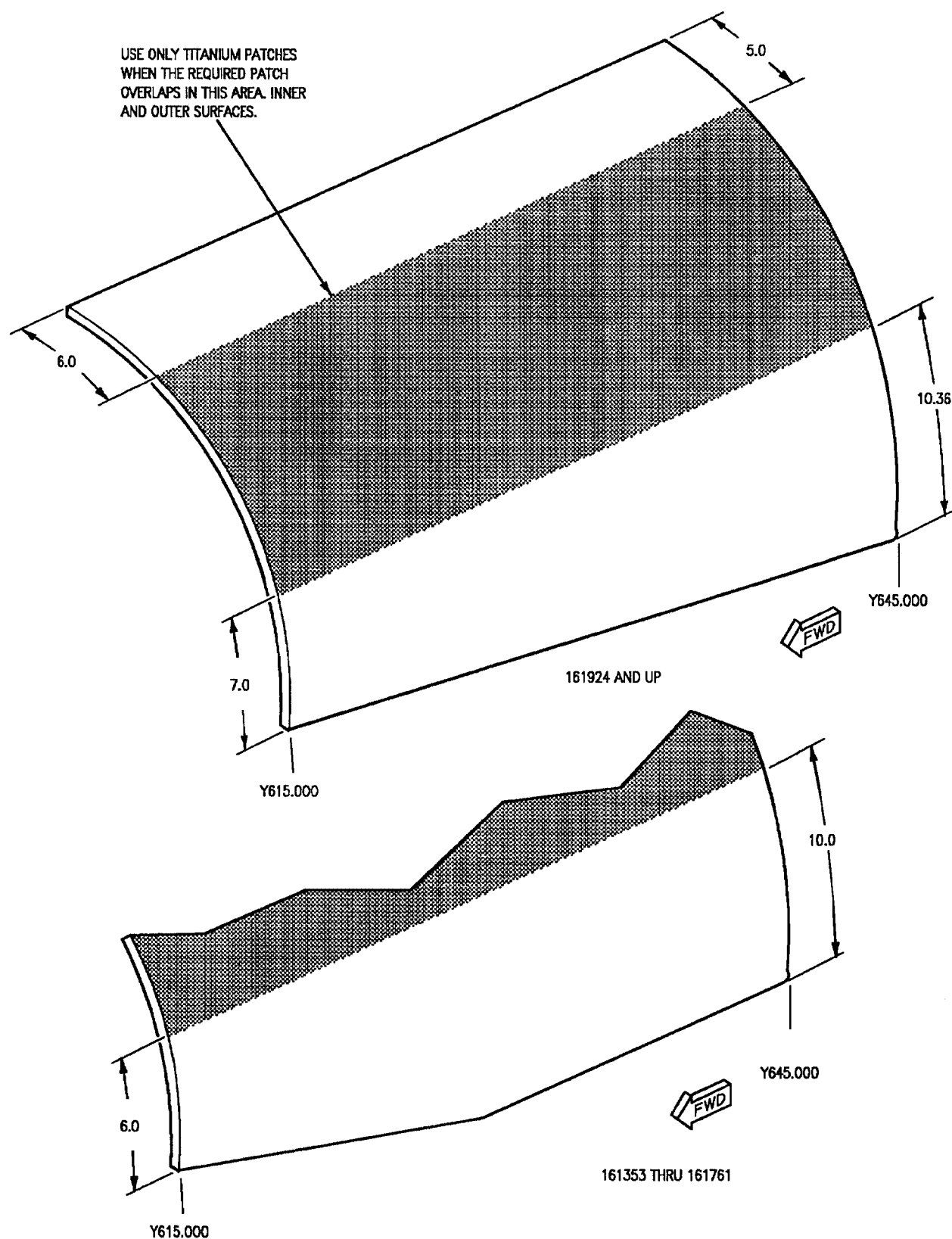


Figure 4. Area Requiring Titanium Patch

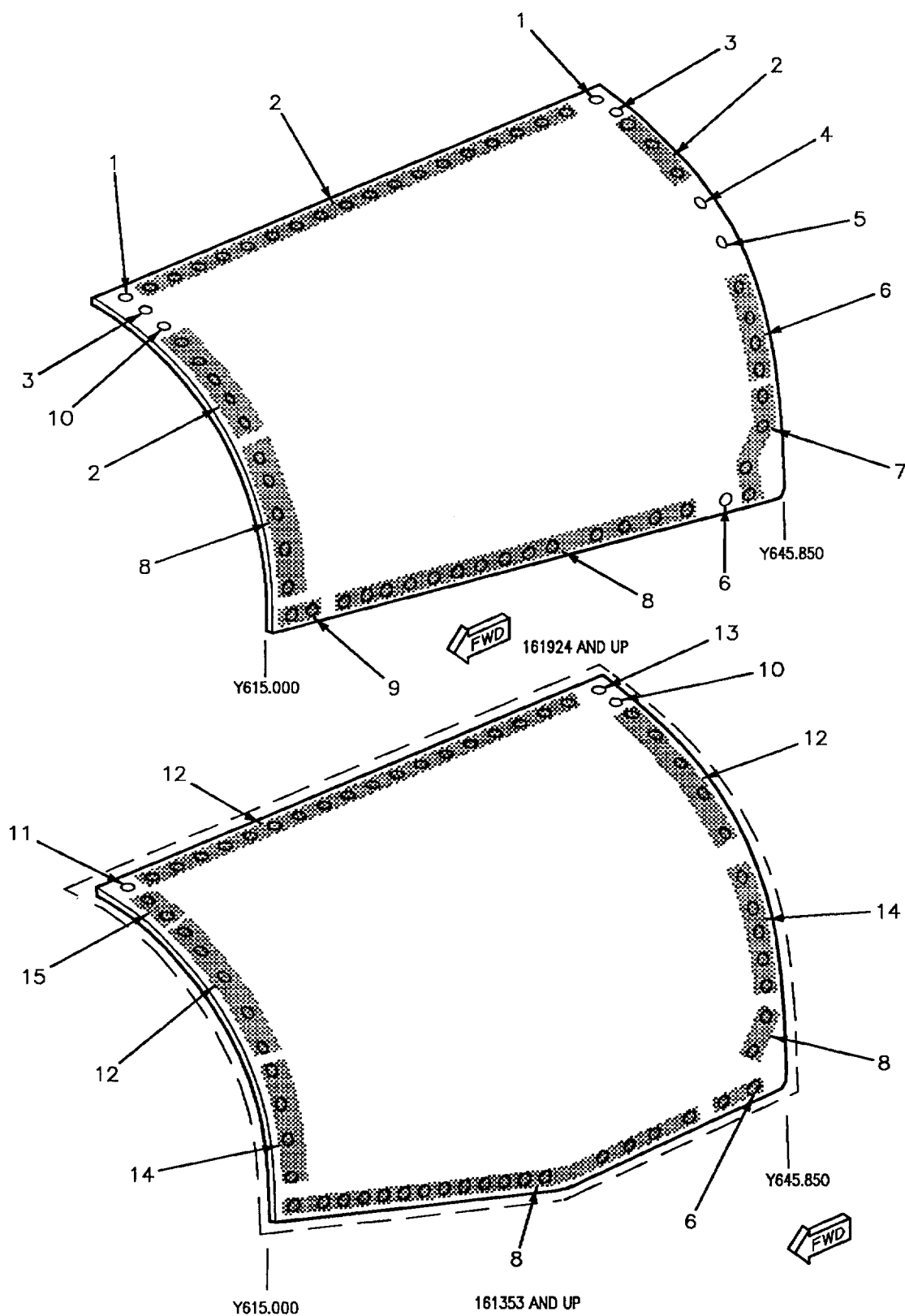


Figure 5. Replacement (Sheet 1)

Idx No.	Eft		Nomenclature	Part Number
1	<div>5</div> <div>6</div>	<div>4</div> <div>4</div>	Plate Nut Shim Plate Nut Shim	MS21076L4 NAS1195C4XH MF52100-4 NAS1195C4XH
2		<div>4</div>	Plate Nut	F49249E4-4
3		<div>4</div>	Plate Nut	F50403-4-2
4		<div>4</div>	Plate Nut	F49249E4-3
5		<div>4</div>	Plate Nut	F49249E4-2
6		<div>1</div>	Plate Nut	F49249E4-2
7		<div>1</div>	Plate Nut	F49249E4-1
8		<div>1</div>	Plate Nut	F49249E4-4
9		<div>1</div>	Plate Nut	F49249E4-3
10		<div>4</div>	Plate Nut	F50403-4-4
11		<div>4</div> <div>2</div>	Plate Nut Shim	MS21076L4 NAS1195D4XH
12		<div>4</div>	Plate Nut	F49249E4-6
13		<div>4</div> <div>3</div>	Plate Nut Shim	MS21076L4 NAS1195C4XH
14		<div>1</div>	Plate Nut	F49249E4-6
15		<div>4</div>	Plate Nut	F50403-4-6
<p style="text-align: center;">LEGEND</p> <p> <div>1</div> Hole diameter is 0.250 +0.004 -0.000 in cover and structure. <div>2</div> Three required. <div>3</div> Two required. <div>4</div> Hole diameter is 0.250 +0.006 -0.000 in cover and 0.256 +0.006 -0.000 in structure. <div>5</div> 161924 THRU 162444. <div>6</div> 162445 AND UP. </p>				

Figure 5. Replacement (Sheet 2)

